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HARVEST OF HOPE:

A Case Study: the Sustainable Development of
Urban Agriculture Projects in Cape Town,
South Africa.



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Thesis submitted in partial fulfilment for the degree of MPhil in
Environmental Management.

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15th August 2008

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ABBREVIATIONS:

ALV: African leafy vegetable.

AIDS: Acquired immune deficiency syndrome

ARV: Anti retroviral (drugs)

AFN: Alternative food network.

CIDA: Canadian International Development Agency.

DFID: Department for International Development (UK).

FAO: Food and Agriculture Organisation (United Nations)

FCI: Farm Concern International.

HoH: Harvest of Hope.

HIV: Human immunodeficiency virus.

IDRC: International Development Research Centre (Canada).

KRA: Key result area.

MSU: Market support unit.

NGO: Non governmental organisation.

NPO: Non profit organisation.

PIPs: Policies, institutions and processes.

SLA: Sustainable Livelihoods Approach.

SI: Sustainability index.

SWOT: Strengths, weaknesses, opportunities and threats.

TB: Tuberculosis

UAP: Urban agriculture project.

UFSA: Urban Field Schools Association.

WCED: World Commission on Environment and Development.

1. INTRODUCTION:

1.1. URBAN FOOD SECURITY:

Urban food security is an important issue because it addresses the basic human requirement and right to have sufficient quality and quantity of food to sustain a healthy life. It is a moral issue regarding human well being but also has implications for national security, the economy, society and the natural environment. A nation where citizens go hungry or are malnourished will not be as stable, secure or productive as it could potentially be. In South Africa, as with many other countries, it is not simply a matter of ensuring that food is available but rather of securing access to it. The main ways a person can secure access to food are either to buy it or produce it themselves. This is becoming an area of concern in urban areas because there has been a marked increase in poverty. People migrate from rural areas with the hope of finding work or securing income from a variety of possible sources. Often their level of skills and education is low and the capacity of informal income generating activities is limited (Mustafa, et al 1999 and Maxwell and Zziwa 1992). This can present problems for the poorest members of society who may have neither access to resources to produce their own food nor income to purchase sufficient food for their requirements. The causes of food insecurity are many and complex. Nugent (2000) argues that solving the chronic problems of unemployment, globalisation and so forth are beyond most programmes and initiatives aimed at the target groups of poorer people. This does not mean that such projects cannot make an important contribution to food security or to the livelihoods of the urban poor. Studies have found that urban agriculture projects can be of importance at the grass roots level and for the people involved (see Literature Review 2.3 Food Security and Income).

1.2. URBAN AGRICULTURE:

A general broad definition of urban agriculture is the production of living organisms by humans for use and/ or consumption, within or on the periphery (peri-urban) of urban areas. This definition (my own) is deliberately broad, acknowledging the diverse nature of

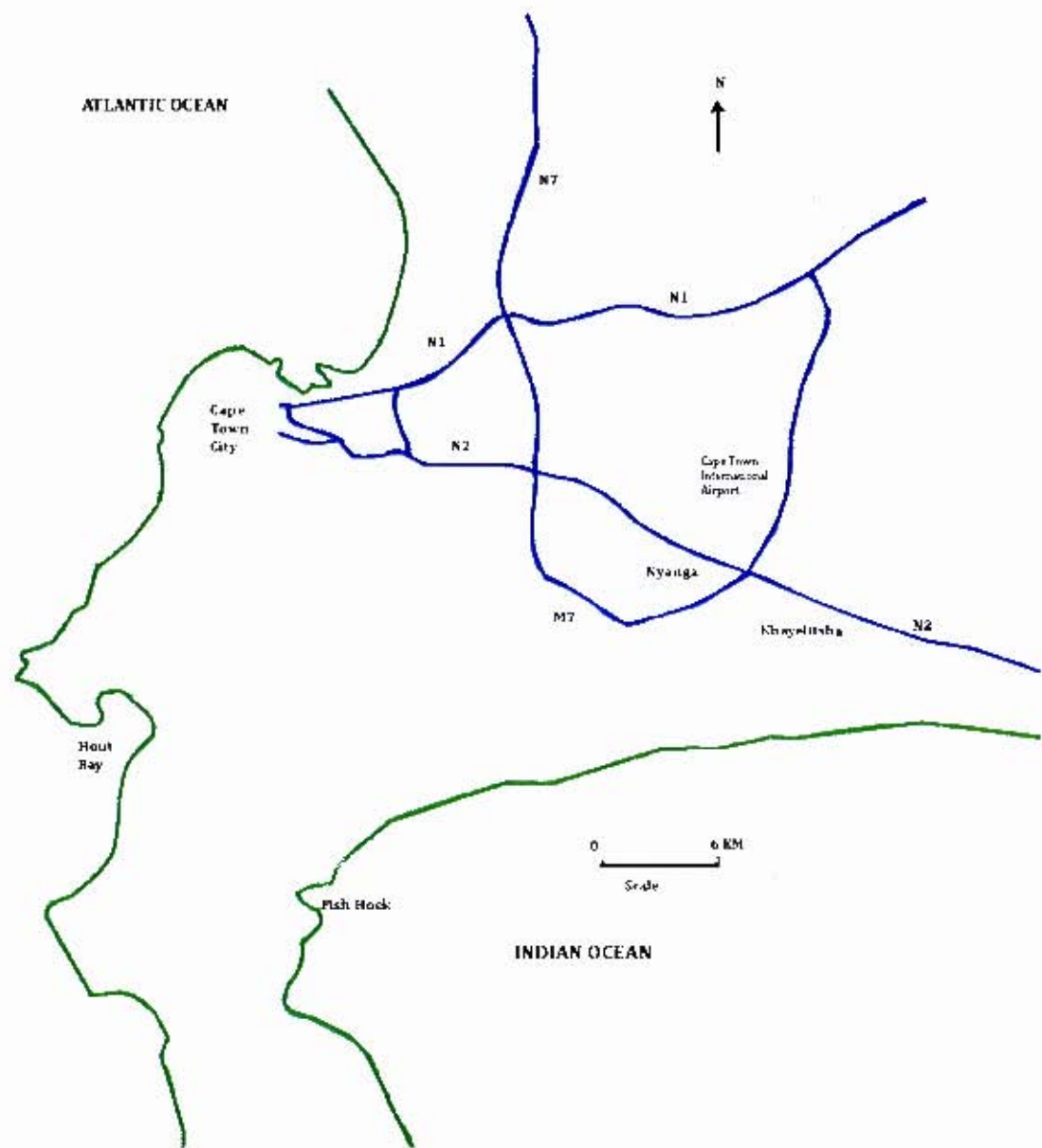
urban agriculture. People may engage in the activity as individuals, groups, cooperatives, or commercial businesses. Within the various categories of farming there are different practices, such as livestock keeping, flori-culture, vegetable cultivation (horticulture) and so forth. There is recognition that urban agriculture can fulfil a multitude of roles and functions, for example; income generation, consumption, enjoyment, physical well being and environmental improvement, yet it is only one component in the wider context of urban life and livelihoods (Maxwell and Zziwa 1992, Foeken 2006, and Mougeot 1994a). Urban agriculture can be considered complex, operating within a complex system. Small changes can have non-linear multiple effects (Cilliers 2001). It is often a more unconventional, heterogeneous and insecure an activity than its rural counterpart and the dynamic nature of urban agricultural systems has implications for evaluation, making early feedback from project participants particularly important (Campilan, Dreschel and Jocker 2001).

This study concentrates on organic, small scale community urban agriculture projects that are intended to fulfil the role of poverty alleviation and provide wider community benefits in an environmentally sustainable manner. An example of a grass roots level organisation working in this field is Abalimi Bezekhaya, a South African, Cape Town based non-profit organisation (NPO) dedicated to poverty alleviation and environmental improvement. Among other activities, Abalimi supports small scale organic community urban agriculture projects in the poor and deprived areas of Nyanga and Khayelitsha in the Cape Town Metropolitan Area.

Abalimi aims to build and strengthen the urban agriculture projects (UAPs) that they are involved with. In an interview conducted with Mr R. Small of Abalimi on 3/7/08 he explained a common pattern that emerges with short term UAP support: Often UAPs begin with support from government and other agencies, money and resources pour in, the projects reach a certain point at which government pulls out, the stipend payment ends and the project is left to fend for itself, which generally results in collapse. It is within this context that Abalimi provides support to poorer local urban farmers in Cape Town. This research evaluates a particular marketing initiative that Abalimi is using to contribute to

overall UAP development and to avoid the above scenario from happening. A selection of community UAPs supported by Abalimi are examined for the study.

FIGURE 1: LOCATION MAP OF THE STUDY AREA:



Adapted from MapStudio (2005)

1.3. SUSTAINABLE DEVELOPMENT:

The universally accepted broad definition of sustainable development is "...development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (World Commission on Environment and Development 1987 p.43).

This concept of sustainable development entails a long term vision of growth that is less material and energy intensive and more equitable in its impact. It requires meeting the basic needs of all and extending to all the opportunity of improving their lives. Overriding priority should be given to the essential needs of the worlds poor (WCED 1987). Projects intended to improve the livelihoods of the urban poor and improve the environment are compatible with the WCED concept of sustainable development. For developmental projects like UAPs sustainable development is closely tied to creating sustainable livelihoods. The concept of a sustainable livelihood is explained by the U.K Department for International Development (DFID 1999) as follows:

'A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintains or enhances its capabilities and assets both now and in the future while not undermining the natural resource base.' (DFID 1999).

Urban poverty is a persistent problem. The sustainable livelihoods discourse is that strengthening livelihood assets reduces vulnerability and in doing so contributes to poverty reduction. DFID (1999) posits that peoples livelihoods are affected by external environmental factors such as critical trends, shocks and seasonality, referred to as the 'Vulnerability Context'. Critical trends may include national and international economic trends, population trends or technological trends. Shocks may be related to human health, conflict, crop/ livestock shocks or natural and economic shocks. Seasonality of prices, production, and employment opportunities may exist and is *'an enduring source of*

hardship for the poor in developing countries' (DFID 1999, 2.2). Assets can be both destroyed and created as a result of trends, shocks and seasonality. A way of managing the Vulnerability Context is to become more resilient and can be achieved by supporting the poor to build up their assets (DFID 1999). Strong assets are therefore directly related to a reduction in vulnerability. The concept of livelihoods is complex because the assets and activities which comprise a livelihood are all interconnected, interdependent and dynamic, being susceptible to changes and outside influences. Different components of the Vulnerability Context affect different people in different ways (DFID 1999).

The Vulnerability Context could also be applied to a business or UAPs. Strengthening the assets of a UAP should result in greater project resilience and thus stability and sustainability. These assets are sometimes referred to as the five capitals of sustainable development (Sigma 2008) which are similar to the 5 capitals of sustainable livelihoods (DFID 1999). They can be used as common indicators of sustainability and/ or as a measure of the strength and health (stability) of a project. The five Capital stocks or assets are as follows:

- ❖ Human Capital: Human characteristics necessary for productive work and the creation of a better quality of life. It includes skills, knowledge, ability to labour, motivation, capacity for relationships, character and good health. Together the components enable people to pursue different livelihood strategies and achieve their objectives.
- ❖ Social Capital: The social resources upon which people draw in pursuit of their livelihood objectives. It refers to institutions such as families, communities, voluntary organisations, cooperatives and so forth. It helps maintain and develop human capital in partnership with others. It concerns communication and links between and within institutions. An important component is trust and the ability of people to work together.
- ❖ Natural Capital: The natural resources and processes that are needed to produce crops, maintain life and deliver goods and services, for example soil and the nitrogen cycle. It includes; renewable resources e.g. fresh water and non-

renewable resources (e.g. some forms of energy), sinks that recycle or absorb wastes (e.g. composting) and ecological processes (e.g. climate and disease).

- ❖ **Physical (DFID 1999) or Manufactured (Sigma 2008) Capital:** It is not the product itself but the material goods or fixed assets that contribute to the production processes or service provision. It can include tools, machinery, buildings and infrastructure such as adequate water supply and clean affordable energy. Transport infrastructure is important to access markets or get fertiliser essential for improved yields.
- ❖ **Financial Capital:** It enables other types of capital to be owned and traded. It has no intrinsic value in itself but represents the other forms of capital.

(DFID 1999 and Sigma 2008).

This study demonstrates the importance of these capital assets and how they are linked to the stability and sustainability of UAPs. Project stability is important because a UAP may be stable with significant external support but not necessarily sustainable. Sustainability can be differentiated into four aspects, namely:

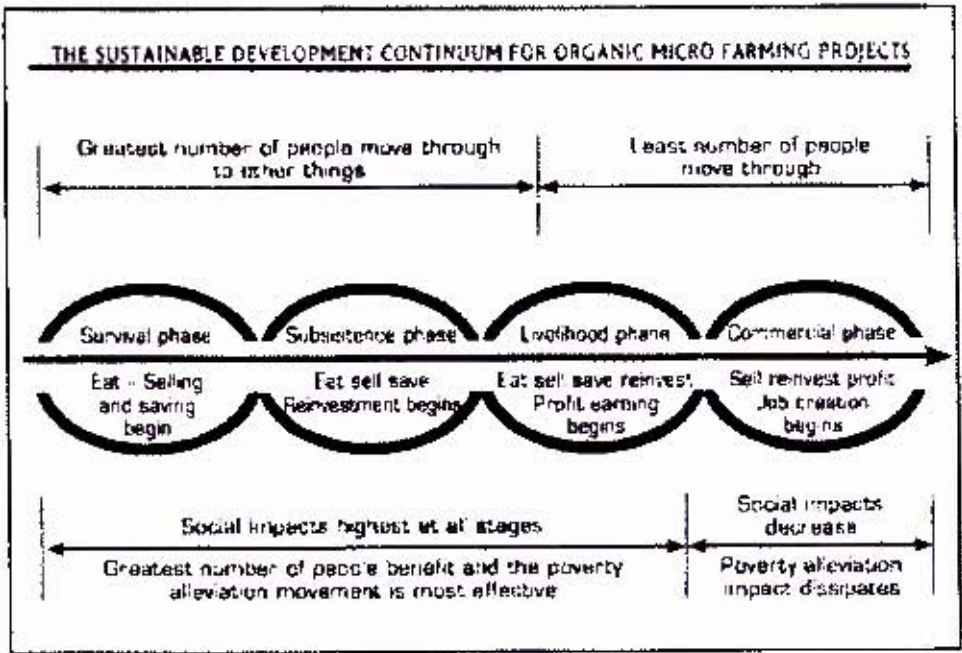
- ❖ **Environmental Sustainability:** This is achieved when the life supporting natural resources of the earth are conserved or enhanced for future generations.
- ❖ **Economic Sustainability:** This is achieved when a given level of expenditure is maintained over time. For the poor there must be a maintained baseline level of economic welfare. The baseline is situation specific.
- ❖ **Social sustainability:** This is achieved when social exclusion is minimized and social equity is maintained.
- ❖ **Institutional Sustainability:** This is achieved when structures and processes have the capacity to continue to perform their functions over a long time.

(DFID 1999).

Capital assets, stability and sustainability have an influence on the development phase of UAPs (see below). From an organisational perspective sustainability is often taken to mean the ability of a project to function independently of outside support. UAPs must aim for improved sustainability because it reduces their vulnerability to external factors

beyond their control and increases the chances of the project continuing over the long term. However, this study maintains that total self sufficiency and independence from support may not be possible. This is justifiable and entirely in line with all modes of agricultural production. There are few agricultural regimes in the world where some form of subsidy does not exist, whether it is in the form of cheaper fuel or guaranteed prices. In the experience of Abalimi, Small claims that subsidies are in fact an essential precondition for the sustainability of the community agricultural movement among the poor. Access to free or very cheap land, water and bulk fertility resources will remain necessary at all levels of UAP development, including commercial (Small, Interview, 03/07/08). Improved sustainability and being more self reliant and independent should reduce project susceptibility to collapse if support from external agencies is reduced or withdrawn. The challenge is to provide long term support that strengthens project stability and sustainability.

FIGURE 2: SUSTAINABLE DEVELOPMENT CONTINUUM FOR UAPS:



(Small, 2005).

The above diagram was developed by Small (2005) of Abalimi Bezekhaya and shows a development pathway for UAPs. It is adapted for the conceptual framework of this study (see Conceptual Framework, Figure 3). The relationship between UAP capital assets, sustainability and project development is not straight forward and the impacts of an initiative can be complex. This research demonstrates that the concept of sustainability must be adapted and understood to address the context in which the gardens operate. The relationship between sustainability and project development requires careful consideration. Being 100% sustainable at one level does not mean that the project must necessarily progress to the next phase; a more commercially developed project may not be more sustainable than one at the survival stage. Different indicators of sustainability are required for each phase. To operate sustainably at the survival level a UAP is not required to have capital assets as strong as a UAP at livelihood level. It should be noted that the level of acceptable project sustainability has not yet been defined but projects will not be expected to be 100% sustainable in all areas.

The aim is to create UAPs which are both as stable and sustainable as possible at the level that they are currently operating at and to allow further project development towards commercialisation, if desired by the gardeners themselves. UAPs, such as those examined in this study, cannot be judged in the same way as more conventional business development schemes because the goals of the target population and organisations like Abalimi cannot be assumed to be purely entrepreneurial. The goals of urban agriculturalists differ from group to group and between members. The main goal of Abalimi is to help reduce poverty and maximise social benefits to the community in an environmentally responsible manner.

1.4. URBAN AGRICULTURE AND ALTERNATIVE MARKETS:

The majority of produce from rural agriculture or large scale peri-urban farms is marketed in what is regarded as conventional ways. Farmers sell through the wholesale commodity markets. Food is produced and distributed in industrialized systems, increasingly controlled by powerful transnational corporations. Relations between

producers and consumers are distant and anonymous and economic considerations are the driving factor (Hinrichs 2000). In contrast, small scale urban agriculture producers cannot operate in this way as they do not produce the volume required. Often their marketing of produce is at best haphazard, utilizing informal, irregular systems. If these farmers are to develop they must seek out new, more organized, formal markets which are an alternative to both conventional and less formal systems (Gonzales, Salvo and Prain 2007, Moustier and Danso 2006, and Stanley et al 2007).

There are many examples of what are known as alternative food networks (AFNs), particularly in developed countries where they can be regarded as a way of 'respatialising' and 'resocialising' food production (Jarosz 2008). AFNs are discussed in detail in the literature review, and some examples include; farmers markets, u- pick, road side stalls, community supported agriculture, organic box schemes and local breweries (Hinrichs 2000). In less developed countries such networks have been created as development tools, providing a new and more stable market for farmers produce, enabling the smaller scale agriculturalist to progress and improve the sustainability of their activity (See Literature Review 2.8 Markets).

South African cities contain areas of significant poverty but also are the centres of the Nations wealth with good infrastructure, services and relatively high living standards (Parnell, S. 2004). This situation presents opportunities for poorer small scale organic community UAPs as the potential for finding niche markets is high. Unlike poorer neighbouring countries, South African cities have a large relatively affluent potential market. The problem facing poor urban farmers is how to access these affluent markets as a business opportunity.

This study looks at the impacts of an initiative providing an alternative food network, on participating UAPs. Of particular interest is the influence such an initiative can have on the capital assets and sustainable development of poorer small scale community UAPs. A recent Abalimi initiative, called Harvest of Hope (HoH), intended to provide an AFN for small scale organic UAPs, is examined in detail, looking at ways in which the initiative may

strengthen and stabilise projects, improve sustainability and possibly lead to progression along the development continuum. The challenge is to create and implement marketing initiatives that benefit the poor. This requires recognition and understanding of how market access influences the capital assets of urban agricultural projects as these assets can be used as indicators of project stability and sustainability.

1.5. PROBLEM STATEMENT:

The urban poor are often food and income insecure, particularly in less developed countries. Sustainable development that enables the poor to improve their vulnerability context and that does not degrade the environment is required. Small scale community UAPs have been developed to address the problem at the local level by enabling food to be grown for own consumption and the possibility for earning income from the sale of surpluses. However many of the projects fail to progress or even continue after support is reduced or withdrawn. The problem appears to be difficulty in creating strong, stable and sustainable projects that can develop further and in providing the type of on going support that will achieve this.

1.6. THESIS STATEMENT:

Market initiatives that support access to alternative food networks can positively affect the stability and sustainability of small scale community urban agricultural projects. There is a relationship between the capital assets, stability, sustainability and the further development of UAPs, which is examined in this study.

2. LITERATURE REVIEW:

2.1. INTRODUCTION:

There is extensive literature on urban agriculture because it is a diverse activity, undertaken in a myriad of ways by varied individuals and organisations for a multitude of reasons. It has been defined as: *'...the growing of plants and the raising of animals for food*

and other uses within urban areas (intra- urban agriculture) and in the fringe of urban areas (peri-urban agriculture) and the processing and marketing of the resultant products' (Zeeuw H . de. 2000).

Tixier and Bon (2006) suggest that although the main function of urban food production is supplying fresh food, other functions are becoming important such as:

- ❖ Economic functions e.g. income generation.
- ❖ Social functions e.g. livelihood and community building.
- ❖ Cultural functions e.g. Community building and tradition.
- ❖ Improvement of the living environment.
- ❖ Environmental recycling.
- ❖ Food security.

Urban agriculture can include growing vegetables and keeping small livestock in household gardens or near to homes, traditional cattle grazing on common ground, community gardens, small commercial farms, wineries, larger farms which have been overtaken by expanding city boundaries, high technology hydroponics or aquaculture, tree planting and greening projects. This literature review is guided by the research focus which is on market access to alternative food networks as opposed to the use of more conventional markets, aimed at supporting poor small scale community urban farmers. It is first necessary to broadly understand the concept of urban agricultural by answering the following questions:

- ❖ Why do people cultivate in urban areas? What are the motivating factors?
- ❖ What functions may urban agriculture perform?
- ❖ Who is involved?
- ❖ What forms of urban agriculture exist, particularly those undertaken by the poorer members of society?
- ❖ What factors affect urban agriculture?

The review examines the possible impacts that marketing initiatives can have on the agricultural projects participating and what factors may influence the success of an initiative.

2.2. THE URBAN CONTEXT:

Clearly Urban agriculture concerns agricultural activities practiced in the urban context. It is seen as increasingly important because the world's human population distribution is changing. The table below shows that the population is becoming increasingly urbanised.

FIGURE 3: TABLE SHOWING THE PERCENTAGE OF POPULATION URBANISED:

YEAR	POPULATION		
	<i>Percentage Urban: More Developed Countries</i>	<i>Percentage Urban: Less Developed Countries</i>	<i>Percentage Urban: South Africa</i>
1980	68.8	29.6	48.4
1985	70.0	32.3	49.4
1990	71.2	35.1	52.0
1995	72.2	37.6	54.5
2000	73.1	40.2	56.9
2005	74.0	42.7	59.3
2010	75.0	45.3	61.7

(Data from United Nations 2007)

South Africa's profile is ahead of the trend for urbanization in Africa with the percentage of the population living in urban areas expected to rise to 61.7% in 2010 (United Nations 2007). There is clearly a dramatic population shift towards urbanization underway in less developed countries and this rapid growth of cities has led to a shift in poverty from rural to urban areas, a process referred to as the 'urbanization of poverty' (Tibaijuka 2002).

Urban poverty is a particular problem in African countries because the urban population is expanding at a faster rate than the urban economy and employment opportunities (Maxwell and Zziwa 1992). In the 1990s most African countries were cutting back on public expenditures, liberalizing trade and increasing interest rates. Unemployment rose along with prices yet welfare services declined (Foeken 2006). This, along with falling purchasing power, soaring inflation, inequalities in the domestic food distribution systems and lax urban land regulation and enforcement, have all contributed to the increased practice of urban agriculture (Mougeot 1994a).

Parnell (2004), whilst recognising urban–rural migration as a cause of increasing urban poverty in South Africa, notes that internal growth of the disproportionately poor, largely African population is a major contributor. Foeken (2006) places the emphasis on the influx of migrants from rural areas as a major cause of the urban population increase in Kenya. Mougeot (1999 p.14) simply states that; *'...more of the rural poor are migrating to the cities, more of those born in the cities are of poor families...'*

Cities are attractive to migrants because they often receive a disproportionately large share of the total national expenditure on education, transport and subsidies (to reduce prices of water, fuel and so forth). However few cities in less developed countries have the resources and capacity to provide their rapidly growing populations with land, services and facilities needed for an adequate life (WCED 1987). In a study of urban agriculture in Lusaka, Zambia, Drescher (1999) notes the city's growth rate of 70,000 persons per year and questions how it will be possible for a developing country to provide housing, education and infrastructure. Rural migrants usually end up in slums or shanty towns where the urban poor live and have no regular work or income (Foeken 2006). Even though the migrants live in poor conditions most do not return to their rural homes. The two main general responses to poverty are to either reduce expenses or raise the level of income by pursuing often diverse income sources in the informal and causal sector, which has only a limited capacity to absorb the unemployed (Mustafa et al 1999 and Maxwell, and Zziwa 1992).

An interesting observation by Foeken (2006) is that the dependency of urban households on rural production and income had actually increased over the past few decades in Nakuru, Kenya. This has been confirmed by Owuor (2006), and similar trends have been documented in Zimbabwe (Potts 1995) and Namibia (Frayne 2007). Many households have components of their livelihoods in both urban and rural areas. In Nakuru, Kenya, this multi spatial character was found in a large proportion of the urban farming population, who also benefitted from rural farming activities (Foeken 2006). Bryld (2003) also noted that boundaries of households in developing countries are often unclear. Some household members may reside in urban areas to generate extra cash whilst the rest stay and work in rural areas, however they are all part of the household livelihood strategy.

2.3. URBAN AGRICULTURE: FOOD SECURITY AND INCOME:

Historically, the concept of food security was equated with national food security measured at the aggregate level. However, it is possible for a country to be a net exporter of food yet at the same time have many people living on the bread line (SA Department of Agriculture 1994). With the move from geographic regions as the food security unit of analysis to that of the household and individuals within households (Sen 1981), it is now well accepted that strategies dealing with food security must consider the effects of any policies on the local level. Within this context, the concept of food security has evolved from merely food availability to embrace the inequalities in distribution, the affordability of nutritious food and its accessibility to households. This may be by own production, purchases, social welfare or community support (SA Department of Agriculture 1994 and Armar-Klemesu 2000). Households must have economic and physical access to a sufficient quality, quantity and variety of foods, available all year round (Nugent 2000). The food must also be acceptable within a given culture (Mustafa et al 1999). Accessibility to food concerns the issue of equity, not only between people alive now but also for future generations. Food systems must be sustainable to help satisfy basic needs now without compromising the ability of future generations to meet their basic needs (Mustafa et al, 1999). Food insecurity arises amongst the urban poor as a result of low wages, high

unemployment (SA Dept. of Agriculture 1994) poverty and lack of fresh food (Nugent 2000).

The nutritional quality of food is important to health, and the benefit of a good diet consisting of sufficient quantities of nutrients is widely accepted. In particular a good diet has significant implications for people suffering from illnesses such as TB, HIV and AIDS. Studies have confirmed that some antiretroviral drugs (ARVs) can lead to a worsening nutritional status of people with HIV and AIDS due to reduced food intake, mal-absorption and increased utilisation and excretion of nutrients. Patients thus have a greater need for foods rich in specific nutrients or nutrient supplements (Castleman, Seumo-Fosso and Cogill (2004) and Byron, Gillespie and Nangami 2006). Castleman, Seumo-Fosso and Cogill (2004) further claim that a diet with sufficient nutrients is important for all people and in particular those suffering from HIV and AIDS. Byron, Gillespie and Nagami (2006) believe that good nutritional status is of particular importance at the start of ARV therapy. Their study in Kenya found that prior to ARV treatment many clients (patients) did not eat a balanced diet. The variety of foods that clients collected from a food programme greatly improved their health status. Small (2006b) also observes that good health among the poor is tenuous and aggravated by lack of good nutrition.

In urban environments with poor economic development and diversity, a buffer against vulnerability can be diversification of food and income resources (Drescher 1999). A study of urban farming, cooperatives and the urban poor in Addis Ababa, Ethiopia, found that all the households in urban agriculture cooperatives had one thing in common; they all faced poverty and lacked enough food and other basic necessities because of unemployment and shortage of income (Egziabher 1994). Urban agriculture is one, sometimes illegal, activity that the urban poor of Africa undertake to subsidize their income by selling produce and/or consuming own produce which reduces expenditure on food (Foeken b, Egziabher 1994, Maxwell and Zziwa 1992). Research in Kampala Uganda (Maxwell and Zziwa 1992) and Nakuru Kenya (Foeken 2006, Owuor 2006) suggest that, at the micro level, urban farming is part of household survival strategy for urban farmers. It provides households with direct income from sales and also direct income by saving on the costs of

buying food. In 1998 poor households that were part of the study in Nakuru, indicated that their own urban production contributed at least half of the food they needed. Cultivation in Nakuru has developed into an economic necessity without which many urban households would not be able to maintain their current living standards or even survive (Foeken 2006). In Kampala urban agriculture was also found to enable households to survive without formal employment and to supplement income from informal wages. It was estimated that urban agriculture produced 20% of the city's food. At the micro level for middle and low income households it is a viable and productive subsector of the city's informal economy (Maxwell and Zziwa 1992).

Although in a very different context than African countries, a household garden study in Havana, Cuba, also found that gardens had an impact of household budgets by reducing the weekly food bill and from income that could be earned by selling produce. The average savings from the gardens was a significant 40% of an average household salary (Moskow 1999). This demonstrates the potential of urban agriculture given strong government support. In Addis Ababa it was estimated that by consuming their own vegetables the farmers were saving on average 10- 20% of their income (Egziabher 1994). Reliable statistic on farmers incomes are rare due to the diversity of farmer types and difficulties cause by the seasonality of crops, scattering of plots and multi- cropping (Moustier and Danso 2006).

Nugent (2000) questions the potential of urban agriculture to ameliorate chronic food insecurity beyond the micro level, which develops from structural problems and the trends affecting urban conditions in developing countries. The problems associated with rural to urban migration, high unemployment, poverty, disease, crime and social disruption present a major challenge and threat to urban food security. Steady production opportunities which create consistent and reliable food sources and lasting self reliance at both National and household levels would be required in order for urban agriculture to be successful against chronic food insecurity (Nugent 2000). Initiatives should ensure access to food distribution and sustainable use of natural resources (Nugent 2000 and Mustafa et al 1999). Various other short and long term programmes are needed such as employment

programmes, welfare programmes and low priced staple food (SA Dept. of Agriculture 1994). Urban agriculture does not offer a total solution but can be an important part of any programme to make cities more liveable (Bryld 2003).

Urban agriculture can be a coping mechanism for the poor because a larger percentage of their income is spent on food which for many is becoming a 'basic luxury' (Mougeot 1994a). In Kampala urban wages declined so much that by 1988 the entire monthly minimum wage purchased enough food to last a family of four only approximately five days (Jamal and Weeks 1993). Currently in South Africa prices of food products are rising sharply, Finance Minister Trevor Manuel said that, *"Food prices are very, very bad. It's not a happy picture.....I don't think you are going to see a reduction in prices for some time, so whatever can be done to encourage people to plant on every piece of arable land would benefit us all."* (Boyle 2008). Manuel is also reported as saying that South Africans should be encouraged to protect themselves by resuming subsistence agriculture (Boyle, Shevel, Robertson and Klein 2008).

However it is not only the poor who are engaged in urban agriculture. In fact in Nakuru, Kenya, 'the poor'¹ were under represented among urban farmers in both crop production and livestock keeping. 21.9% of the urban agriculturalists studied were poor compared with 59.4% non poor. It appears that those who have potentially the most to gain are not engaging in urban agriculture, possibly because they have less access to land and other resources required (Foeken 2006, May and Rogerson 1995 and Egziabher 1994). In their study of the KwaZulu area of metropolitan Durban, May and Rogerson's (1995) findings did not support the contention that urban agriculture is a last resort for the poor. They found that urban agriculture was not a significant means of survival for the poorest 'marginal' households. Urban vegetable production may not be a suitable survival tactic for the

¹ Foeken (2006) describes the poor as having less than 20 USD per day.

poorest of the poor because of the need for land and inputs and also due to the lapse of time between planting and harvesting to gain income. Egziabher's (1994) study of Addis Ababa demonstrated that agriculture is not an occupation taken up by recent migrants but by those who have, through time, established links to access land and the resources necessary to cultivate. Urban agriculture is a component of the livelihood strategies of those described as 'less poor', to diversify and strengthen their income sources (Fermont et al 1998, May and Rogerson 1995). In Tanzania a study investigating the farmers in Dar es Salaam revealed that 18.5% of those sampled who were engaging in urban agriculture were small business people or trade owners and 15.8% were professionals (Sawio 1994). This also suggests that the activity is not confined to the urban poor. In Addis Ababa, Egziabher (1994) estimated that the average income of the selected representative sample of urban farming households was 50% above that of the general population. This figure does not include the value of the vegetables consumed by the households themselves. It appears that initially urban farmers in Addis Ababa were motivated to cultivate out of necessity but that the activity then transformed their situation from one of immediate survival to that of improving their lives and prospects (Egziabher 1994).

Foeken (2006) found in Nakuru that urban agriculture is just one of a number of household survival strategies and that the increase of the activity can be explained by economic stress. For low income groups it can be a means of paying for school fees or other things that would otherwise suffer. There are, of course, other ways of diversifying such as petty trade or even theft (Foeken 2006). The greater the range of income sources the less the risk. Sandler (1994) found that very risk adverse households only want to allocate a small percentage of labour time to vegetable cultivation. Only where the opportunity costs are very low, for example in the case of pensioners who have few employment alternatives, will more time be spent cultivating. Age is thus an important factor because the elderly are less likely to have other paid work. In a study of Khayelitsha, Cape Town, Beaumont (1990) found only a third of 24 gardeners interviewed said their vegetable production saved a lot of money, two thirds mentioned both providing the family with vegetables and enjoyment as reasons for undertaking cultivation. She

speculated that basic survival was not the primary motivating factor for vegetable production.

In contrast with subsistence urban farmers who cultivate mainly for their own consumption, commercial family farmers are involved in agriculture to earn a monetary income. As farmers objectives are to get regular food and income and to secure their livelihoods, the cropping system has to be risk averse yet have high value to compensate for small land areas. Vegetables, particularly green leafy varieties, have a short life cycle which enables regular cash generation (Moustier and Danso 2006).

The Addis Ababa study suggested that the motivation of households, that is the determination, ability and willingness to cultivate urban land, is an equally significant factor influencing the decision to cultivate (Egziabher 1994). Foeken (2006) acknowledges a recent observation in the livelihoods discourse which corresponds with this finding; that the choice of activities and strategies depends on the number and individual characteristics of household members, in particular gender and income.

2.4. GENDER:

Farming is usually regarded as women's business yet in Nakuru men were responsible for the activity in 30% of farming house holds. Female headed households were under represented among urban farmers and had smaller plots with lower yields (Foeken 2006). A study in Khayelitsha by Beaumont (1990) found that for 71% of the households studied a woman was responsible for cultivation and 21% had both a man and woman. In Addis Ababa there was a gender distinction regarding which plots were worked. In male headed households the man was responsible for the cooperative plot and female members of the household worked the private plots. The situation was harder for women who were the head of a household because they worked both the communal and private plots as well as undertaking the domestic duties (Egziabher 1994). It appears that male headed households can also rely on female members for other chores and cultivation whereas female heads do not have this luxury.

Women tend to concentrate their activities around their urban homes and will increase their informal activities such as cultivating in order to cope with the reduced purchasing power of their household (Foeken 2006). Women are generally responsible for household reproduction tasks such as obtaining water, cooking, cleaning, washing, looking after children, the elderly and the sick. In this light urban agriculture could be seen as yet another burden (Bryld E 2003 and Mougeot 1999). However, Maxwell (1995) suggested that it may be considered as a form of empowerment because resources formerly used for food purchase can be used elsewhere which gives women some manoeuvrability and choice. He found that urban farming in Kampala is specifically a strategy of women to protect or supplement their other sources of income. It enables women to assert some control over a source of food for their families that is not dependant on either the urban food market or their husband's income (Maxwell 1995).

It has been noted that poor and female headed households require practical programmes that will yield results in a short period of time while also providing long term support. In Malawi female and low income farmers were observed to produce vegetables of poorer quality and low price compared with products from richer male headed households. Vegetables were harvested before they were properly ripe and grown without proper management (Mkwambisi, Fraser and Dougill 2007).

2.5. CATEGORIES OF URBAN AGRICULTURE:

Various studies categorize the types of urban farming that they found to exist and are to some extent similar. Foeken (2006) identifies four different types of urban agriculture in Kenya as being:

- ❖ Small scale subsistence crop production.
- ❖ Small scale market orientated crop production.
- ❖ Small scale livestock production.
- ❖ Large scale commercial farming.

Moustier and Danso (2006) summarise the different types of UA into 4 similar categories, namely:

- ❖ Subsistence (intra and peri-urban areas).
- ❖ Family type commercial farmers (intra and peri-urban).
- ❖ Urban and peri-urban agricultural entrepreneurs.
- ❖ Multi cropping peri-urban.

The City of Cape Town (2007) also identifies four categories of urban farming as follows:

- ❖ Home based activities: Very small scale, part time, family driven and part of a survival strategy with the objective of supplementing food.
- ❖ Community based activities: A group of people that come together to produce food collectively for themselves or a community institution like a school. The practice is part time and takes place usually around public facilities, on public open space or smaller unutilized land. It is part of a survival strategy and includes both vegetables and livestock.
- ❖ Micro farmers: Individuals involved in urban agriculture to create an income. It is micro scale business, part time, located on small pieces of unutilized land, aimed at profit and part of a survival strategy.
- ❖ Small emerging farmers: Individuals or groups who are or want to be full time farmers. It is a formal activity and requires profit to survive.

There are also the distinct categories of micro urban farmers suggested by Small (2008) of Abalimi Bezekhaya, namely:

- ❖ Home/ Survival Gardens: Vegetable and fruit production in individual home gardens or a group of home gardeners (clubs and streets).
- ❖ Community Gardens: Vegetable and Fruit Production: Communal allotment gardens with no separate plots, allotment gardens with separate plots, mixed communal and allotment, community gardens on open land (usually commonage and community gardens on institutional or private land (e.g. church, school, clinic).

- ❖ **Micro Farms:** Vegetable, fruit and livestock under two hectares, either individually owned and managed, group owned and managed or group owned with delegated management.
- ❖ **Small Farms:** Vegetable, fruit and livestock over two hectares. Individually owned and managed, group owned and managed or group owned with delegated management.

Small (2005) also suggests phases of development that may exist within the community garden category and are highlighted in his development continuum, Figure 1.

One important question is whether it is possible to develop from one category of urban agriculture to another, for example from being a community garden type to a micro farm? This would involve the generation of sufficient income and savings to increase the scale of the business and move towards a more entrepreneurial type (Moustier and Danso 2006). The same question can be asked of the development of UAPs within a specific category. Rob Small (2006a) of Abalimi has identified phases of development for community gardens. From field experience he has identified factors which limit progression of urban agriculture as follows:

- ❖ Lack of investment.
- ❖ Easier options to make an income may exist.
- ❖ Lack of appropriate skills.
- ❖ Lack of subsidies which all forms of conventional agriculture have to a lesser or greater degree.
- ❖ Chronic illness such as TB and AIDS.

Small (2006a) makes the point that not all survival level farmers are certain about what level of 'development' they wish to achieve or even if they wish to be farmers at all. Special training is needed to provide the target group with sustainable assistance while allowing a flow through of temporary farmers.

It has been observed that most entrepreneurs are not originally from agricultural sectors which suggests that commercial family farmers find it hard to increase their scale of enterprise and that they aim for little more than to maintain (reproduce) their livelihoods. Family farmers view the activity as a refuge option rather than a path for development (Moustier and Danso 2006). In a study of vegetable farms in Lome and Contonou it was found that some famers had moved from subsistence to commercial vegetable production as their savings enabled them to use treadle pumps and then motor water pumps. They are now producing for export and local consumption (Keraita, Drechsel and Amaoh 2003).

2.6. ENVIRONMENTAL FACTORS:

The natural environment is an important influence on urban agriculture. Unfavourable environmental conditions can lead to initial high costs and low yields. In some cases limitations can be overcome by careful site/ garden design. Mollison (1990) advocates a permaculture approach to urban agriculture and suggests that everything is a positive resource; it is only a matter of how it is used. He maintains that by careful design involving analysis of site characteristics and observation, the greatest possible effects can be achieved through the least changes.

A study of urban vegetable production in Khayelitsha, Cape Town, showed that fertiliser and irrigation requirements were high because the Cape Flats had poor sandy soil (Fermont et al 1998). This study demonstrates how environmental conditions can be overcome. They found that by replacing a sprinkler system with a single drip irrigation system and introducing irrigation scheduling, 40% to 50% of water use could be saved. They also found that approximately 30% of water used in a mixed vegetable garden could be saved by avoiding planting early in summer and later in winter and thereby avoiding the hot summer months (new plants require more water). Windbreaks can reduce crop water requirements by 7% – 13% by reducing wind speed and evaporation rates. Trees and other windbreaks can also prevent direct damage to vegetables by sand blasting. When taken together the savings are significant (Fermont et al 1998). The use of organic matter for

fertiliser is important not only for the replacement of nutrients but because it also maintains and builds up the soil structure and provides an aerated moisture retentive environment (Baumgartner and Belevi 2001).

A major challenge for urban horticulture is to supply safe products in an often polluted environment (Tixier and Bon 2006). The idea of recycling urban waste for use as fertiliser for urban cultivation is well known, however it may not always be a viable option. Soils and water in urban areas can be polluted, for example by heavy metal contamination. In Nakuru, Kenya, water and plant samples taken from 12 selected sites showed relatively high concentrations of heavy metals where sewage water was used for irrigation and on the local dump where only a thin layer of soil covered the garbage (Foeken 2006). This presents a problem for food produce although not for flowers or other non edible produce.

The main pollutants affecting urban agriculture are heavy metals, pesticide residues and biological contaminants. Heavy metals such as lead, cadmium, chromium, zinc, copper, nickel, mercury, manganese, selenium and arsenic can be found in streams and waste water contaminated by heavy industry (Tixier and Bon 2006). Cultivation can also be adversely affected by the application of contaminated solid wastes and the use of former industrial land contaminated by spilled oil and industrial waste. If the concentration of these elements in the human food chain increases it may cause damage to health. Contamination varies depending upon the species of the plant and the levels and type of contaminants. Leaves often contain high levels of contaminants whereas seeds often have a lot less. Beans, peas, tomatoes and peppers show a low uptake of heavy metals (Tixier and Bon 2006). In Upper Silesia, Poland, where there is a high concentration of heavy industry, locally grown food is sometimes loaded with toxic contaminants (Bellows 1999a cited in Bellows 1999b). Bellows (1999b) concludes that environmentally based contamination in locally grown food can adversely affect a region's prospects of achieving food autonomy.

The quality of water for irrigation purposes is important and if waste water is to be considered the local variations in quality would require research. Waste water can contain bacteria, protozoan parasites, viruses and helminthes as well as anthropogenic substances (endocrine disrupting chemicals) and toxic chemicals (Baumgartner and Belevi 2001). These risks are not limited to official waste water but may also apply to rivers and other water sources (Zeeuw de. 2000). In Kumasi, Ghana, due to the sanitation infrastructure being outpaced by population increase, the streams and ground water were found to have high levels of biological contaminants. A study looked at the affect that this water had on agriculture in and around Kumasi. The researchers collected 60 samples of lettuce, cabbage and spring onions to test and make an evaluation of the effects of using the waste water on the microbiological quality of the urban grown vegetables. The study showed extremely high levels of vegetable contamination which had serious health implications (Keriata et al 2003).

The effect of air pollution must also be considered in the urban environment. In a study of air quality and plant contamination in Varanasi, India, it was found that gaseous pollutants have detrimental effects of varying magnitude on wheat, mung beans, mustard and palak plants tested. Yields declined where the highest concentration of air pollutants existed. The extent of the effects of air pollution was dependant on the pollutant concentrations and the plant species and season (Agrawal et al 2003).

There are a number of ways to prevent or control contamination from soils, water and the air (Zeeuw de. 2000) but careful monitoring and chemical testing would be necessary to build consumer confidence where contamination is known to exist (Bellows 1999b). This may prove difficult in developing and less developed countries due to lack of capacity and the informal unregulated nature of many urban agricultural activities. Organic producers must be particularly vigilant with regard to chemical contamination. This affects the source and type of inputs that can be used. If solid waste is properly composted the heat generated within the compost pile can reach up to 70 degrees Celsius which effectively sanitises the compost and significantly reduces the pathogen levels (Baumgarther and Belevi 2001). De Zeeuw (2000) claims that city authorities are often

reluctant to accept urban agriculture because of the perceived health risks. He suggests that policies to actively manage the health risks are needed and not largely ineffectual laws prohibiting urban agricultural.

2.7. SUPPORT:

The number of activities to promote urban agriculture at the international, national and local level has grown, but urban farmers in many cities of the world still struggle to get their main survival strategy recognised by city authorities (Van Veenhuizen 2006). Agricultural activities in most urban areas contravene some zoning regulation or bylaw (Mougeot 1999). Until recently urban agriculture was predominantly viewed as an artefact of rural life in developing countries and unimportant to the urban economy (Bryld 2003). Attitudes are however changing. Cuba, Argentina and Brazil are examples of countries where substantial government support is given to the development of urban agriculture. Other countries such as Botswana, Zambia, Benin and China are preparing policies favourable to urban agriculture, often as part of a broader strategy such as; Food Security Policy, Poverty Reduction Strategy, Sustainable City Development Policy or Irrigation Policy. As a result of international workshops on urban agriculture, as well as pressure by local poverty groups, urban farmers and non governmental organisations (NGOs), many city authorities have acknowledged the potential of urban agriculture. Efforts are being made to maximise the benefits while reducing the associated risks (Van Veenhuizen 2000).

There are many developmental organisations involved in interventions in urban agriculture (Mougeot 1999). Bilateral and Multilateral agencies such as the Food and Agriculture Organisation of the United Nations (FAO), the International Development Research Centre (IDRC), the World Bank, the Canadian International Development Agency (CIDA) and the U.K Department for International Development (DFID) to name only a few, are incorporating urban agricultural concerns into their structures and programs. Research is funded by organisations such as the Rockefeller Foundation, the World Health Organisation, the International Food Policy Research Institute and so forth (Mougeot

1999). National and local government are involved in supporting urban agriculture in South Africa, such as the Department of Agriculture and the City of Cape Town, the latter has an Urban Agricultural Policy. The aim of this policy is:

'...to develop an integrated and holistic approach for the effective and meaningful development of urban agriculture... It will be utilized as a guiding tool by all role players to align and synergise efforts to maximize the positive impact of urban agriculture in the City...This policy seeks to create an enabling environment wherein public, private and civil society agents can work together collectively to create more real and sustainable opportunities for local area economic development.' (City of Cape Town 2007 p1)

CCT (2007) states that it wishes to support urban agriculture provided it does not degrade the natural environment or adversely affect public health or citizen quality of life. The policy attempts to provide an enabling environment for urban agriculture. The type of assistance that can be given for each category of farming is specified. It is clear that community gardens can receive the most types of assistance covering access to land, infrastructure, tools and equipment, production inputs, capacity building and skill development. At this early stage there has been no evaluation of the policy, its implementation or impacts.

Government support for research and development, provision of extension workers, and credit facilities is critical for the successful development of urban agriculture. It must be supported with legislation, rules and regulations in order to encourage and improve productivity (Egziabher 1994). Urban agriculture produces other things of value to the public than simply food production. Other benefits include self reliant employment, fuller utilisation of human resources (Egziabher 1994), use of waste and less use of fuel (Mustafa et al 1999). Moustier and Danso (2006) also identify food security, social inclusion, greening and improved aesthetics, all of which make it a cheap producer of public goods and therefore, from an economic viewpoint, public sector support can be justified.

Most urban farmers are poorly organised and there is a role for NGO involvement to help support farmers with training and capacity building. Important areas of intervention to enhance productivity and economic viability of urban agriculture are; to enhance access to inputs (e.g. water, fertiliser etc), enhance farmers access to credit facilities and facilitate direct marketing between farmers and existing city markets (Van Veenhuizen 2006). At the local level there are many Voluntary Associations and NPOs working in the field and in Cape Town examples include; Abalimi Bezekhaya, Soil for Life and the Sustainability Institute. Small (2005) advocates the following interventions to build a robust micro farming model:

- ❖ The funding of organizations with a proven record in micro farming development at the community level.
- ❖ Supporting training and accreditation, possibly providing bursaries for trainees.
- ❖ Support capacity building of community associations.
- ❖ The provision of low cost micro credit for emerging organic producers.
- ❖ Supporting marketing infrastructure development and systems that allow access to markets.
- ❖ Funding the initial costs of establishing local economic trading systems and supplying goods and services through them.

Maxwell and Zziwa (1992) found that in Kampala few direct services existed to support agricultural production in the city. Only 9.3% of urban farmers in the study received a farm visit from an extension officer, either from the Agricultural Office or a vet, and only 10.7% indicated that they rely on the extension services as a regular source of information about producing practices. Radio programmes were the source of information for 37.3% of farmers. The SA Department of Agriculture (1994) believes that financial support is better achieved by non governmental bodies and private sector investment with government support, which has been the experience of other countries such as Indonesia and Bangladesh. They maintain that NGOs can be involved in training and providing financial advice. Moustier and Danso (2006) also suggest:

- ❖ Integration into urban planning.
- ❖ Research and extension services to improve profitability and for sustainable intensive commercial vegetable and animal systems.
- ❖ Innovative marketing.

Urban farmers need to be supported by extension workers, technical assistance and training, including sorting, packing and strong marketing of the produce (Egziabher A.G 1994). Mkwambisi, Fraser and Dougill (2007) recommend that government should help create a policy environment that places urban agriculture on the economic development agenda. They suggest financial incentives that promote use of land, waste water resources, waste recycling and land restoration for agriculture. A policy strategy should focus on pro-poor poverty reduction that targets marginal producers who use urban agriculture as an income source rather than just for food. The emphasis should not be on yield increases but start with capacity building amongst the poor urban farmers. This could be done by establishing cooperative groups to help better management, distribution and marketing of their produce (Mkwambisi, Fraser and Dougill 2007). Public and private institutions have struck up partnerships with producer organisations to undertake a wide range of activities such as providing food for schools, reforesting degraded areas, maintaining open spaces or offering local produce to local shops (Mougeot 1994b).

Farmers Cooperatives offer members protection against threats and reduce exploitation and dependence on others. They can foster unity, solidarity and help solve common problems. They can avoid wholesalers and therefore income is received directly by the cooperative (Egziabher 1994). In Addis Ababa, Egziabher's (1994) study established that cooperative members had equal rights and responsibilities, with the shares from the cooperative being divided on an equal basis depending on the number of points individual members had earned for tasks performed. However, Cooperatives need legal status to obtain credit and financial resources. In Addis Ababa cooperatives had temporary title deeds to the land but this did not give the right to invest in permanent structures on the sites, which discourages investment. Egziabher (1994) claims that establishing and

strengthening farmers groups has the potential to overcome many marketing problems that small holders face. Kruijssen, Keizer and Giuliani (2006) however, warn that farmer groups are not a panacea to all problems as there can still be issues such as free riding group members and lower levels of flexibility to respond to changes in production or market prices and demand. Some investment is usually needed at the level of the individual to become a member and for initial starting capital. At the group level investment is needed to build capacity and trust. Nevertheless, a collective approach can play an important role in increasing participation of the poor in urban agriculture (Stanley M et al 2007). Well functioning farmers organisations can help with access to land, training and credit (Van Veenhuizen 2006).

2.8. MARKETS:

Direct market venues such as farmers markets, community supported agriculture (CSA), u- pick operations, roadside farm stands, vegetable box schemes and other co-operative distribution and delivery programs have proliferated in many industrially developed countries (Hinrichs 2000). Urban growth and gentrification creates a demand for locally grown fresh seasonal organic foods yet at the same time distance, time and fuel to get into the city to the farmers markets also increases due to urbanization (Jarosz 2008). This process both promotes and constrains the emergence and development of alternative food networks (AFNs). It should be noted that Jarosz does not consider urban agriculture per se but small farms around and beyond metropolitan areas, however many of the claims made have significance for the urban context.

AFNs are characterised by:

- ❖ The spatial proximity (shorter distances) between farmers and consumers which reduces the minimum distances travelled and fuel consumption (Jarosz 2008). AFNs are based on familiarity with and commitment to nearby places (Hinrichs 2000). Closer proximity enables frequent contacts between farmers, traders and

consumers and thereby facilitates checks on the production process (Moustier and Danso 2006).

- ❖ Small farm size and scale (Jarosz 2008),
- ❖ Middlemen are by passed in the distribution chain. In this way retail venues such as farmers markets, food co-operatives, CSA and local food to school linkages allow farmers to capture more profit (Jarosz 2008). Produce from urban and peri-urban locations are distributed through very short marketing chains with direct producer involvement (Moustier and Danso 2006).
- ❖ A commitment to socially, economically and environmentally sustainable food production and consumption. AFNs express values about how and where food is grown, distributed and eaten and the social relationships that underpin cultural and economic practices. The values are centred on food quality, economic support for local small farmers, environmentally sustainable food production and concern for the conditions under which the food is grown and consumed, that is; socially conscious, just and equitable. The majority of food is organically produced although not necessarily formally registered.

AFN's allow closer contact between producers and consumers and can result in bonds of trust and co operation (Jarosz 2008). However Hinrichs (2000) warns against making sentimental assumptions about face to face ties. She argues that it is necessary to recognise how social embeddedness is qualified by marketness and instrumentalism. Too much of the latter can sour an embedded market but the market is unlikely to exist without some measure of price consideration and individual farmer economic goals and motivation. She concludes that price may still matter and self interest may be at work even where there are vigorous and meaningful social ties.

Food cooperatives, CSAs and farmers markets are venues lying outside of the economically concerned domain of the supermarket chains. They provide alternatives to globalized food especially when concerning individual and community gardens. They represent a structured more organised form of larger scale individual roadside stands and the like, where flows of customers are sporadic. They cause people to congregate on

specific days, times and locations such as food distribution day (Jarosz 2008 and Hinrichs 2000). These organisations do not however necessarily concern themselves with social or environmental justice issues as their main objective (Jarosz 2008). All markets are characterized by fluctuating mixes of social embeddedness where social ties are assumed to modify and enhance economic interactions, marketness and instrumentalism (Hinrichs 2000).

CSA is based on a direct partnership between the farmer and local consumers where all agree to share the costs and products of the farm. The members each purchase a share of the harvest at a set price and then receive farm produce, usually weekly, throughout the season. Consumers share in the risks undertaken by farmers because if yields are poor they get fewer products but if yields are good then they receive more. Consumers have access to fresh, local, usually organic produce and are supporting environmentally sound practices and land use (Hinrichs 2000). CSA may be regarded as an economic transfer that is suffused with trust although there is still a marketness involved through the negotiation and calculation of share price between the farmer and member representatives. Farmers must make a living and cover costs whilst CSA members expect good value for their share. Care must be taken not to exaggerate the shared community and social ties aspect of CSA as this is not always the case. Often there is a significant gap in the income level of farmers (which is lower) and most of the farmers earn a lot less income than CSA members, the majority of whom participate little in the community side of the arrangement (Hinrichs and Kremer 1998 cited in Hinrichs 2000). Hinrichs (2000) concludes that CSA is based ultimately on economic exchange but that there are wider shared values which help to soften the impersonal nature of this sort of transaction. She found that many farmers participate in farmers markets because of the premium they get but also because they enjoyed the experience.

Increasingly ethical and organic trading is beginning to overlap. Ethical trading is where the relationship between parties is influenced by concern for some or all of the following:

- ❖ Workers pay and rights.

- ❖ Producer livelihoods.
- ❖ Fair prices and a commitment to social development.
- ❖ Sustainable production methods, sustainable environmental and development practices.
- ❖ Animal welfare

(Brown et al 2000).

In their study of organic production and ethical trade Brown et al (2000) found that there are certain principles of ethicalness that can be grouped into three broad areas namely:

- ❖ People centred: Concern for workers welfare such as a minimum worker age, fair wages, reasonable working conditions, equity of pay, non discriminating practices, workers freedom of association, management systems to ensure product quality and monitoring of work practices. NGOs have emphasised the structural link between trading and social development.
- ❖ An environmental focus: Concern with environmentally sustainable practices such as careful land use management of natural resources and practices which reduce pollution and do not degrade the environment. This is particularly important to the organic movement.
- ❖ Animal Centred: Concerns about the rights and welfare of livestock.

The study found that developmental NGOs were less concerned about the environment than the organic movement and tended to place greater emphasis on the importance of people centred issues. They also found some conflicting views, for example around the issue of food miles. Environmentalists are concerned about the negative impacts on the environment caused by transporting food over long distances when home grown substitutes are available. The 'fair trade' organisations however, argue that it is ethical to support the efforts of poor farmers in Africa. Organic producers do not have to follow the full list of ethical considerations in order to be certified 'organic'. Although working conditions do tend to be fair on organic farms they do not have to be to qualify for

certification. The study identified that the main concern of organic consumers was health. Four motives of ethical consumers were identified, namely:

- ❖ *Their own family's health (what is in the food).*
- ❖ The environment (how the food is produced).
- ❖ Animal welfare.
- ❖ Helping people in the developing world by not exploiting producers.

(Brown et al 2000).

The willingness to pay extra for an 'ethical' product is based on the understanding that the higher price paid translates into improved producer livelihoods. Brown et al (2000) noted that development NGOs and DFID view organic farming as a possible avenue to achieve sustainable rural livelihoods. This could easily be applied to urban agricultural projects which are arguably a more environmentally sustainable option than other forms of competing urban land use, are closer to markets and contribute to sustainable livelihoods of the urban poor.

Hinrichs suggests that the interest in local food systems has been born out of the sustainable agriculture movement as there is some association between local direct markets and organic or low input farming (Hinrichs 2000). However Jarosz questions the assumption that local food systems are all good and progressive. Some local food systems may not necessarily be oppositional to globalized food systems as they may employ industrial production techniques, exploit farm workers and still produce organic foods (Jarosz 2008). Some AFNs may also be regarded as exclusionary, for example Jarosz (2008) found that in the Seattle area and Skagit County some organic farmers ate a lot of conventional foods or produce from their own gardens because they could not afford to buy organic produce at the farmers markets. Locally grown organic foods are generally purchased by well educated, well paid urban dwellers. Most people on low incomes do not eat much locally grown organic food unless they grow their own or it is available in a food bank. A review of CSA and the community food security movement undertaken by Jarosz (2008) indicates class and race aspects to food security. However in the USA poor women

with children can purchase food at farmers markets with the help of federal programmes and some farmers and urban gardeners donate produce to local food banks. This demonstrates the role that the state can play in ensuring equitable access to food in AFNs and to promote initiatives (Jarosz 2008). It also seems to suggest that by gifting food some farmers are not exclusively economically motivated and are mindful of the needy.

Opportunities and challenges are created by urbanisation for small scale family farms active in AFNs. Although demand for local fresh produce increases, small farmers may find that securing their livelihood is not a certainty. Many farmers are only just getting by as sometimes revenue does not necessarily or consistently increase. The potential for burn out exists as labour and time demands of direct marketing increase as well as competition from bigger farms. Jarosz's (2008) study showed that farmers who are placed further from the city (in some cases 200 miles from Seattle) face difficulties in meeting production and sales costs. The variations that occur in agricultural production, the cost of labour, time and fuel necessary for the success of direct marketing can erode farm income. However those farmers participating in CSA close to customers, that is urban and peri-urban farms, did not face the challenges of increase fuel costs and time to transport and unload the produce because the customers came to the farms to pick up their weekly vegetable boxes. In their study Tixier and Bon (2006) found that urban producers can supply markets more regularly than rural producers. Seasons influenced rural producers more than urban producers because urban producers irrigated more and undertook mixed cropping. Culture and festivals can have a strong influence on consumer demand for specific products, for example flowers on Mothers day, turkey at Christmas, or for ornamental trees given during Tet celebrations in Vietnam.

The City of Cape Town's Urban Agricultural Unit recognises the difficulties that poor urban farmers experience finding a suitable market. In very poor communities there is a demand for produce but people do not have the cash to purchase it. If produce has to be transported out of the area this incurs additional costs (Visser 2006). In a study of organic markets in Lima, Gonzales, Salvo and Prain (2007) found that most local producers lacked the skills to organise themselves for better marketing. Farms are small and marketing

relies on a complex array of intermediaries. Farmers have limited information about market prices and tend to grow the same products in the same seasons leading to market saturation and lower prices. Innovative approaches are needed for producers to take advantage of the recent increase in demand for organic vegetables and the close proximity of urban farmers to this market.

Urbanisation and food policies come together with the establishment of government agencies and NGOs dedicated to supporting farms and markets that make produce available to the poor (Jarosz 2008). Kruijssen, Keizer and Giuliani (2006) also advocate the notion of supporting agencies driving farmer collaboration and marketing. They state that external catalysts in the form of agencies such as government, NGOs, research institutions or even an internal chain champion (in the form of a farmer or other actor taking a leading role), can bring together collaborators and establish preconditions, such as willingness to work together, for effective market participation.

Moustier and Danso (2006) observe that small scale urban agriculturalists are usually scattered over a wide area and produce relatively small volumes of transactions. This fragmentation of production makes it difficult to circulate information about market supply among farmers. One solution they suggest is to provide timely information about the market and support farmers to cooperate to limit gluts or deficits in the market. Farmers' organisations can reduce supply instability and generate economies of scale. However Moustier and Danso (2006) have also found that experiences of collective marketing are not well developed in peri-urban areas or have had little success due to variability of production in quantity and quality. They found that farmers can be reluctant to put their produce together with others that may be of a lower quality and may adversely affect marketing. Some cooperatives have introduced labelling especially where farmers have invested in quality control efforts such as organic standards and want to ensure that their customers recognise this.

In developing countries direct sales have been regarded as a way of promoting organic vegetables. In Hanoi and Phnom Penh farmers made direct deliveries to a group of

consumers with the support of a marketing company and an NGO (Moustier and Danso 2006). Direct agricultural markets promise human connections at the place where production and consumption of food converge. This appears to help mitigate the consumer's uneasiness about the social and ecological attributes of food (Goodman and Redcliff, cited in Hinrichs 2000).

Kruijssen, Keizer and Giuliana (2006) suggest that small holders in developing countries face the following constraints in marketing products:

- ❖ Limited access to physical and financial resources without which the opportunities to increase production, reduce transaction costs and invest in efficiency improving technology are restricted.
- ❖ Limited skills and access to training on production, processing and information on market requirements.
- ❖ Lack of bargaining power.

One possible means of solving the above problems is by contract farming although the high transaction costs of establishing the contract may result in the exclusion of the smallest and poorest farmers (Kruijssen, Keizer and Giuliana 2006).

There appears to be a certain degree of skill and organisation required for urban farmers to take advantage of close urban markets. This was demonstrated in Lima with the establishment of Urban Field Schools Associations (UFSAs) with the technical support of research and development organisations. It took approximately 1 year to attain the degree of farmer participation, organisation and autonomy that can ensure the sustainability of the UFSAs. Farmers involved were responsible for the dissemination of the knowledge that they acquired to other farmers in Lima, that is, horizontal learning (Gonzales, Salvo and Prain 2007). The objective of the approach in Lima was to;

- ❖ Enhance access for urban farmers to high value markets for organic produce.
- ❖ Increase consumer access to fresh healthy foods and improve family diets
- ❖ Eliminate harmful effects of agricultural on the environment.

The focus of the adapted Farmer Field Schools model used in the Lima study was on integrated crop management because the management of pests and soils was identified as the main weaknesses of urban producers. The achievements of the approach identified by Gonzales, Salvo and Prain (2007) were:

- ❖ The establishment of two UFSAs for the production and marketing of organic vegetables which are stable and sustainable.
- ❖ Producers being able to negotiate for themselves sales to different markets.
- ❖ Official organic certification.
- ❖ More diverse market outlets.
- ❖ Increased own consumption of organic vegetables by farmers and more sales to the neighbourhood.
- ❖ Horizontal learning and improved profits.

There were still issues to be dealt with such as:

- ❖ Better exploitation of the proximity to markets.
- ❖ Improved organisation and crop planting to respond to increased demand.
- ❖ The need for farmers to dedicate themselves full time in the future.
- ❖ The need to continue developing production technologies such as more efficient irrigation and crop protection.

(Gonzales, Salvo and Prain 2007).

In Kenya an intervention programme aimed at increasing the commercialization of African leafy vegetables (ALVs) was initiated in 2002 by a market development agency called Farm Concern International (FCI). The programme involved:

- ❖ Improving production.
- ❖ Enhancing collective marketing systems.
- ❖ Increasing chain efficiency.
- ❖ Increasing demand and consumption.
- ❖ Improving the image of ALVs.

Before the programme began the farmers were not organised which affected their access to technology, credit, information, markets, and services from government. The farms were weekly developed and selling was to informal markets in small volumes. One challenge was the lack of quality seeds. FCI identified stockists and linked them to seed companies and other seed multiplying farmers in order to supply better seed. Farmers were trained in seed multiplication techniques (Stanley et al 2007).

The Kenya ALV programme found that to sustain market demand is was essential to ensure a consistent supply of vegetables to the market. A production strategy was designed by sub committees to achieve this. Schedules and production calendars were made to correspond with market demands and every farm group had members plant over the same period. Farmers from similar backgrounds were organised into market support units (MSUs). They designed production schedules to ensure that they were able to sell ALVs consistently to formal and informal markets (Stanley et al 2007). The initiative found that organising farmers into groups is essential for a collective approach to marketing, especially for urban small holders whose volumes are too low to meet orders from big stores and institutions. FCI identified markets and linked these to the MSUs whose schedules enabled them to meet demand. FCI provided an initial financial support service including transport van hire payment and local authority levies. FCI identified training packages to enhance capacity, improve member cohesion and market competitiveness. A promotional strategy was also instigated using radio, television, leaflets and so forth, with a view to also promoting awareness of the nutritive and medicinal benefits of ALVs. In February 2007 the supply level was meeting 60% of the demand (Stanley et al 2007). The conclusions made by Stanley et al (2007) based on the experience of the above programme, are:

- ❖ Sustainable access to markets for small holders requires products for which there high or intermediate demand growth.
- ❖ A collective approach plays a vital role to the participation of the poor. This was achieved by organising into MSUs.

- ❖ The capacity of small holder farmers must be developed.
- ❖ To compete effectively the MSUs must be linked to markets.

The programme was supported by the FCI who implemented the initiative with others such as the Kenyan Ministry of Agriculture, Urban Harvest (consultation group), the Rockefeller Foundation which helped fund the programme for three years along with USAID Horticultural Development Programmes and IDRC (Stanley et al 2007). This highlights the degree of support that is required, at least initially, to set up and run a programme.

2.9. CONCLUSION:

The review suggests varied reasons for people engaging in urban agriculture and how it can be part of the livelihood strategy of the urban poor. Interestingly, it appears that the poorest of the poor are actually under represented as a group and limited access to resources appears to be the problem. Another factor may also be that once people begin to farm their circumstances improve. In less developed countries it can be clearly seen as a tool for alleviating poverty and this is a focus of the review. Many activities fall within the definition of urban agriculture but emphasis here is on the activities of the poor.

Environmental and institutional challenges exist, as do innovative ways of overcoming obstacles. There is a move in many countries towards accepting and embracing the concept of urban agriculture and support traditionally reserved for rural programmes is now targeting urban areas. Support in various forms is an important condition that allows urban agricultural projects to develop and progress. NGOs and other organisations have a significant role to play in capacity building and training at the local level.

Marketing initiatives aimed at creating alternative food networks are shown to be particularly influential to the success of small scale urban and peri-urban agriculture. Organic farming practices enable the produce to be 'niche' marketed but also means that strict environmental practices must be observed. Assistance and farmer collaboration are shown to be important pre-conditions of successful access to AFN's. How an AFN

marketing initiative can be used to affect the stability and sustainable development of UAPs appears to have not been specifically researched. There is also a gap in linking the above concepts with a UAP development continuum and this is under consideration as part of this study.

3. THE STUDY:

3.1. STUDY OBJECTIVES:

This research investigates how providing access to a market otherwise referred to as an AFN can affect the capital assets, stability, sustainability and development of small scale urban agricultural projects. The study aims to show the links between a process like a marketing initiative, UAP capital assets, UAP stability, UAP sustainability and UAP further development. Access to an AFN is only one component in the urban agricultural system yet may have a significant influence not only on the assets of the UAPs involved but also on their development. The research also aims to show how impacts can occur early in the life of an initiative and that early evaluation can be beneficial.

3.2. RATIONALE FOR THE STUDY:

Theoretical: The study validates the concept of having 5 capitals of sustainable development (Sigma 2008 and DFID 1999) and links formative project evaluation with this concept. It explores how policies, institution and processes, in this case a marketing initiative called 'Harvest of Hope' (HoH) can affect the capital assets of UAPs. This is then linked to project stability, sustainability and the effect on the progression of UAPs along a development continuum

Practical: The work should benefit Abalimi Bezekhaya (NPO running HoH) by providing an early evaluation on how HoH is progressing and of the affects, intended or otherwise. Clearly conceptualising project development with stability and sustainability as key outcomes will assist Abalimi to further their work in this field.

3.3. DELINEATION AND LIMITATIONS:

The study does not cover the livelihood strategies of gardeners or the effect that the capital asset arising from the gardens have on their overall livelihoods. Whilst cognisance is taken of the fact that a stable, sustainable UAP with strong capital assets should positively improve the vulnerability context of the people involved, it is not a study of their livelihoods. Such an inclusion would take the study beyond the requirement of the dissertation and result in a loss of focus. The study examined a particular marketing initiative, HoH, and its effects on the UAPs involved. The assets also include the 'gardeners' (human and social capitals). The study does not examine in detail other factors which also affect the UAPs capital assets, such as training.

A sustainability index was not created for each project because the study focuses on the effects of HoH and sustainability is also influenced by other unrelated interventions. The intention has been to keep the study tightly focused. One limitation to a full evaluation of the HoH project is that it is a relatively new initiative and the full extent of impacts cannot yet be known, some may not yet be revealed. However early evaluation of an initiative like HoH can yield useful information to inform adaptation and further development of the initiative, ensuring that the end goals are achieved. The methods used for the study were limited by finance, human resources and time.

3.4. RESEARCH QUESTIONS:

1. How can poor small scale community UAPs access an AFN?
2. In what ways can access to an AFN successfully contribute to the stable and sustainable development of small scale community UAPs?
3. How are the capital assets of UAPs directly and indirectly affected by a marketing initiative?
4. What is the relationship between project capital assets, stability, sustainability and UAP development progression?

4. CONCEPTUAL FRAMEWORK:

The Sustainable Livelihoods Approach (SLA) developed by the U.K. Department for International Development (DFID) will be used and adapted for the purposes of the study. The effect that a process of providing a market has on the 5 capital assets pertaining to UAPs will be examined. Six principles underpin the SLA:

- ❖ People centred: The focus is on what matters to people, their current livelihood strategies, social environment and ability to adapt.
- ❖ Being responsive and participatory: Poverty reduction efforts are more likely to be effective when they build upon people strengths rather than focusing only on their needs.
- ❖ Working with partners: The approach stresses the importance of developing partnerships.
- ❖ Being dynamic: Livelihoods and the factors shaping them are constantly changing. The approach tries to support positive directions of change and build longer term commitments.
- ❖ Taking a wider view of sustainability: Seeking a balance between economic, institutional, social and environmental sustainability.

(DFID 1999).

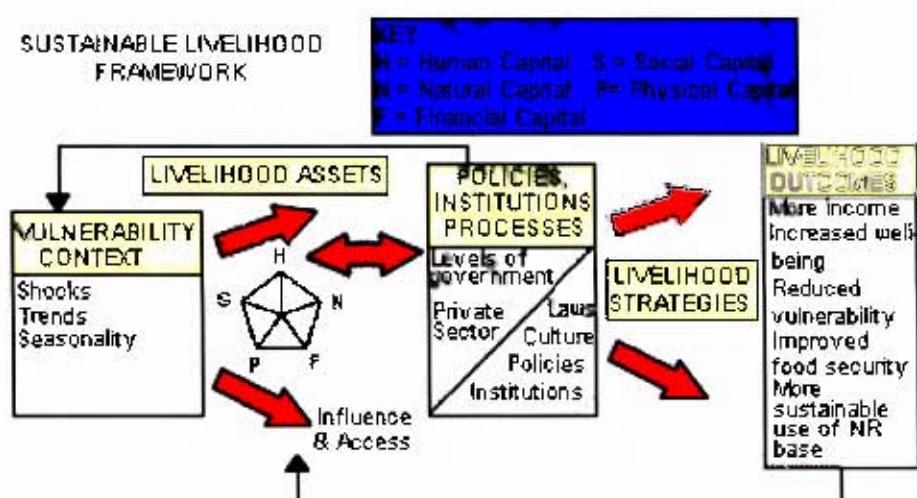
The sustainable livelihoods framework model, shown below, recognizes the relationship and dependencies between the livelihood capital assets. In terms of DFID's (1999) Sustainable Livelihoods Approach (SLA), policies, institutions and processes (PIP's) form the context within which livelihoods are constructed and adapted. Policies are defined as a course of action designed to achieve a particular goal and are implemented through organisations and institutions. Processes refer to the processes of change in policies, institutions and organisations. Below are some examples given by DFID (1999) of transforming processes of importance to livelihoods:

- ❖ Policies; macro, sectoral, redistributive and regulatory.

- ❖ Legislative; international agreements, domestic laws.
- ❖ Institutions; markets, standard operating practices, institutions that regulate access to assets and the 'rules of the game' within structures.
- ❖ Culture; societal norms and beliefs.
- ❖ Power Relations; age, gender, caste and class.

Processes are important because they provide incentives, for example markets, that stimulate people to make choices about their livelihood assets. Processes grant or deny access to assets and enable one asset to be transformed into another; again markets are a good example of this (DFID 1999). Processes are a key focus of donor and pro-poor policies because they can transform livelihoods. There are several ways processes may address the problems of the poor, for example, supporting participation in policy formulation, promoting the expansion of fair and competitive markets or providing information to support more pro-poor policy making (DFID 1999). Although the SLA is concerned specifically with livelihoods of the poor, the principles could be adapted and applied to the evaluation and of UAPs.

FIGURE 4: DFID'S SUSTAINABLE LIVELIHOOD FRAMEWORK (DFID 1999).



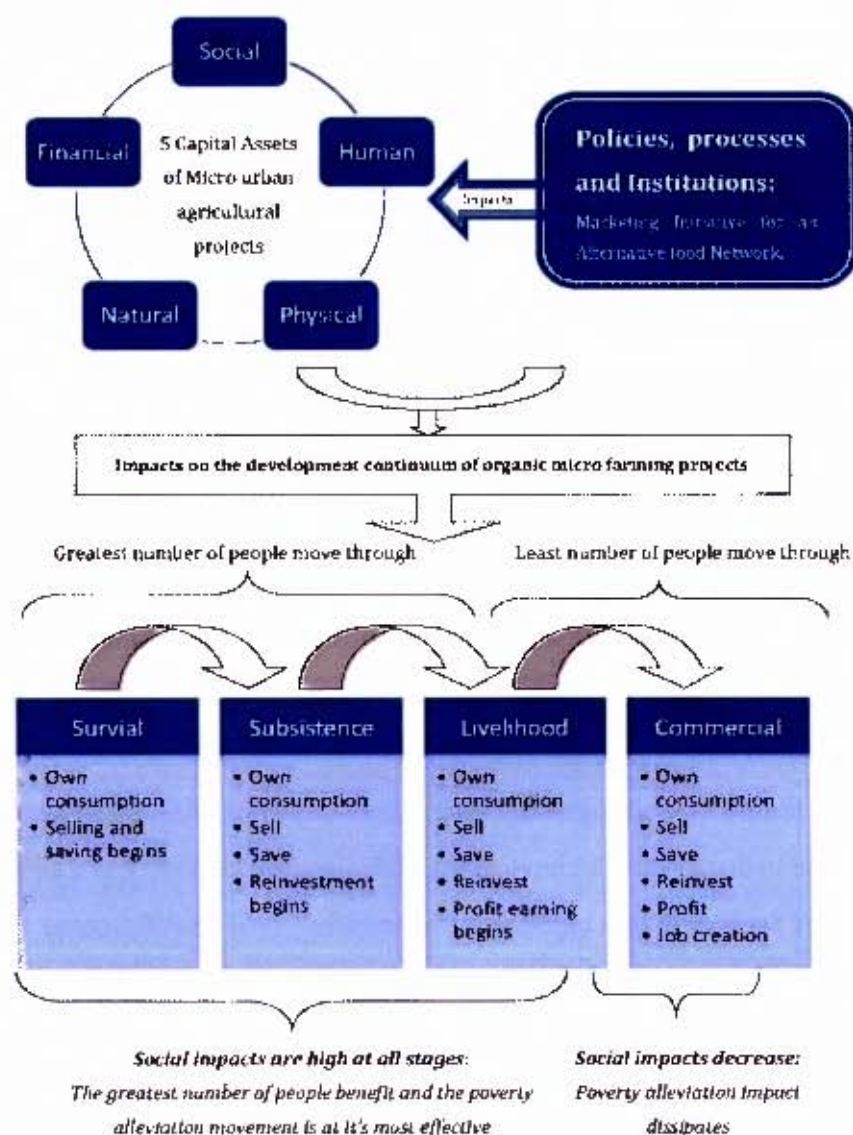
Adapted from Chambers and Conway (1992)

This study is an examination of how an initiative creating access to an AFN, which falls under the heading of PIPs, can affect the 5 capital assets of small scale community UAPs and the implications this has for project stability, sustainability and further development. It does not analyze livelihood strategies other than urban agriculture although together they constitute overall livelihood sustainability. Cognizance must be given to the fact that poor people tend to favour diverse livelihood strategies in the interests of robustness and reducing vulnerability as demonstrated in the literature review. This study concerns the contribution that access to an alternative market or AFN may make to the sustainability and development of micro organic community UAPs.

Rob Small of Abalimi Bezekhaya, a registered NPO has formulated a development continuum which he has applied to community based organic urban micro farming (Small 2005). This is a useful tool for recognizing the development stage of a project and the direction in which it could progress. This continuum has been placed within an adapted version of the SLA framework to provide a conceptual framework for the research of this thesis research. The framework was applied to the evaluation of Harvest of Hope which is a relatively new initiative that aims to provide an alternative market for small scale community urban farmers. The initiative was assessed for the possible impacts it may have on the capital assets and the stable, sustainable development of participating agricultural projects. How the various components of the initiative interact to either promote or constrain capital assets and whether this is likely to affect the development phase of agricultural projects is considered. Cognizance is given to the fact that marketing initiatives do not operate in isolation and are only one component in a complex system.

FIGURE 5: CONCEPTUAL FRAMEWORK:

The Sustainable Development of Micro Urban Agriculture Projects through Access to an Alternative Food Network.



Adapted from Rob Small's Sustainable Development Continuum for Organic Micro Farming Projects (Small 2005) and DFID's Sustainable Livelihood Approach Framework (DFID 1999).

5. METHOD:

5.1. INTRODUCTION: THE PROCESS OF IDENTIFYING THE RESEARCH TOPIC:

Initially the process of defining the research concerned identifying a topic that I was interested in and to some extent familiar with. The general topic of urban agriculture appealed given my family connection with organic farming in the UK and previous employment as a Town and Regional Planner. Two seemingly unrelated areas of interest therefore combined with the research topic.

As urban agriculture is an extensive subject it is necessary to focus the research on a particular area. A preliminary review of related literature helped to conceptualise the topic. This combined with the actions described below developed into an iterative process informing and refining the focus of the study. At an early stage I arranged a meeting with the head of The City of Cape Town's Urban Agriculture Unit, Mr Stanley Visser, anticipating that the local government unit was in a position to give a good overview of the subject. As a result of this useful meeting and also discussion with Bruce Frayne of Queens University, who is the Coordinator of the Program in Urban Food Security at the University of Cape Town and my supervisor, the area of small scale community agricultural projects was identified. A registered non profit making civil society organization Abalimi Bezekhaya was suggested as a contact in the field. Abalimi was contacted and Rob Small the Director of the organisation suggested attending a tour which he often conducts on Tuesdays. The tour covered visiting two community gardens and a new vegetable packing shed being utilized for a marketing initiative called Harvest of Hope. Before making a decision regarding the final area of research, Rob Small suggested a two week period of immersion with Abalimi to better understand what they are doing and how the organisation works. This was an extremely useful experience and ultimately helped to refine the focus of the research to the given thesis statement.

This research used the following methods to establish the validity of the thesis statement:

- ❖ A Case Study.
- ❖ Documentation Review.
- ❖ Participant / direct Observation.
- ❖ Survey, questionnaire and interviews.
- ❖ Strengths, weaknesses, opportunities and threats (SWOT) analysis.

The case study was the primary methodology, all other methodologies were conducted as part of the case study, complementing and supporting each other by allowing cross referencing of information and in depth understanding of the issues. The research is qualitative in nature examining the ways in which the UAP capital assets, stability, sustainability and development of UAPs can be affected by a marketing initiative, using examples in the case study.

These methods facilitated an assessment of Harvest of Hope which can be described as a non conventional marketing initiative providing access to an AFN, and enabled insights into how this initiative may affect the small scale community UAPs involved. The methods used allowed an understanding of the project characteristics that facilitate the successful implementation of such a marketing initiative (what is needed) and also how the initiative itself affects the projects. The aim is to understand the implications of providing an alternative market for the produce of poorer urban agriculturalists and to understand the developmental implications that may arise as a result of the initiative.

Using the above methods it was possible to explore why the initiative was established (what were the driving issues), how the initiative operates and to identify and understand changes to the UAPs involved that have subsequently arisen. The study provides an understanding of how one initiative like Harvest of Hope, can affect UAP stability and sustainability as a whole.

6. RESEARCH DESIGN:

6.1. A CASE STUDY:

This method involves examining a single case in a tightly structure way with the aim of finding principles that can be extrapolated to similar cases. The purpose is to document the story or sequence of events over time related to a particular project. It looks at how people have dealt with change and why change has occurred in specific ways. From a monitoring and evaluation perspective case studies can add life and meaning to what might otherwise be just data. A case study should allow in depth understanding of the context and human factors behind data that may be collected by other ways (International Fund for Agricultural Development (IFAD) 2008). The strengths of this method are:

- ❖ It is possible to obtain a lot of detail on a specific topic.
- ❖ It can provide interesting perspectives that can only be gained by a closer look at the overall project or situation.
- ❖ It can provide important background and human context for data generated by other means.
- ❖ It is useful in complex situation where many variables interrelate and where outcomes and impacts are liable to vary across different populations.

The weaknesses of this method can be:

- ❖ It is generally not considered representative which is why it is good to combine this method with others.
- ❖ Subjectivity and obtaining unbiased results.
- ❖ Generalisation of the results can be difficult.
- ❖ There is a risk of losing focus.

(IFAD 2008 and Hofstee 2006)

6.1.1. THE CASE STUDY METHODOLOGY:

Abalimi were willing to provide access to information and people involved in the Harvest for Hope (HoH) initiative. A requirement was that Rob Small be given the opportunity to comment on the rough draft of the dissertation and that they receive a copy of the final document when complete. This was agreed by both parties on the understanding that this preliminary review was to identify factual errors only. The two week immersion provided the opportunity to familiarise myself with the staff of Abalimi, the gardens (UAPs) and the location. It enabled useful contacts to be made before formally beginning the research and provided the opportunity for broad based questions to be asked that gave a useful oversight. During the first two weeks I visited Abalimi every working day and:

- ❖ Attended meetings.
- ❖ Worked in the vegetable packing shed for HoH.
- ❖ Visited gardens while the Abalimi staff performed their tasks and helped where possible.
- ❖ Talked with staff and gardeners.
- ❖ Helped to create vegetable gardens in an informal settlement.
- ❖ Visited the schools where the produce from Harvest of Hope goes.

After this initial period the research topic was refined and more focused information gathering could begin. The subject of the case study is a new marketing initiative called Harvest of Hope (HoH) which gives organic small scale community farming projects, (referred to as gardens or UAPs) access to an alternative food network, in the form of an organic vegetable box scheme.

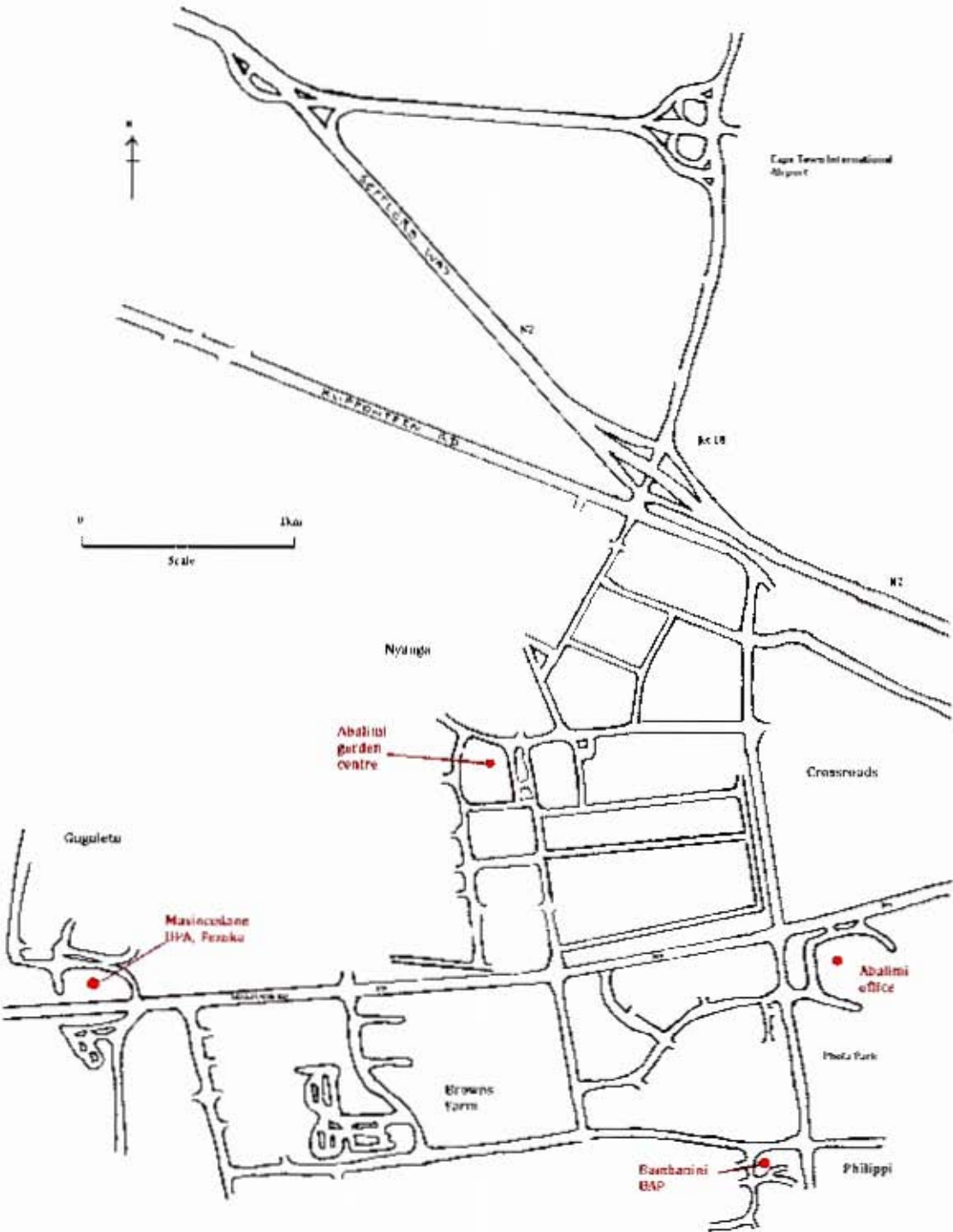
There are 13 gardens which have plots contracted to HoH and one other that regularly provides produce but is not yet contracted and is not an 'Abalimi' garden. Initially the intension was to study in depth all of the UAPs but due to the difficulties outlined below and human resource and time constraints, this was not possible. A sample of these UAPs

was selected for in depth examination of how HoH was affecting the projects. However, where information was available or readily attainable for the other gardens participating in HoH, it was used to support the study (see appendix 10). The projects selected varied in physical and social character, in an attempt to provide a good cross section of UAPs participating in HoH. The projects chosen were:

- ❖ SCAGA, Khayelitsha
- ❖ Eden, Khayelitsha
- ❖ Sakhe, Khayelitsha
- ❖ Masincedane (Fezeka), Nyanga
- ❖ Bambanani, Nyanga.

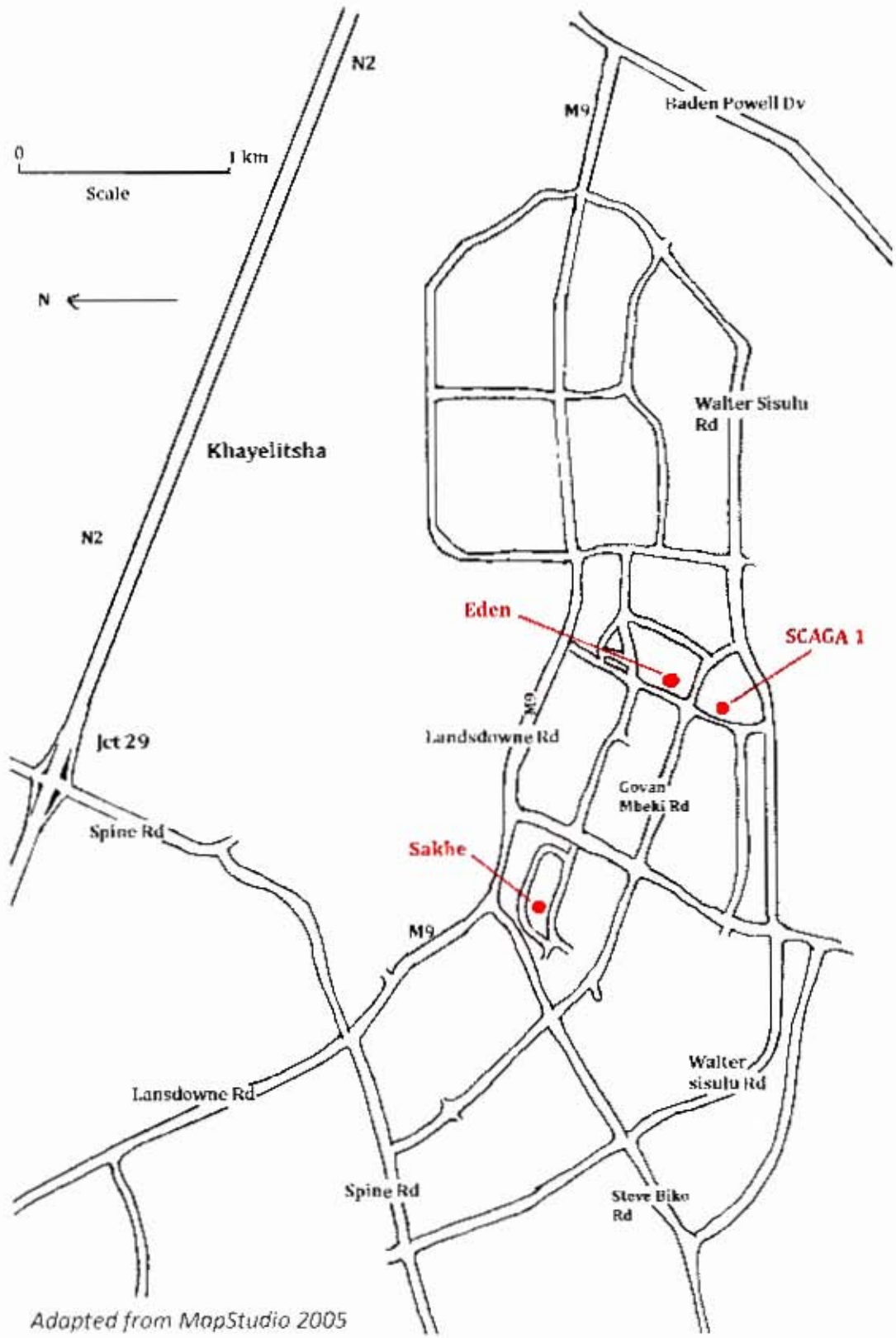
The following maps (Figures 6 and 7) show the locations of these 5 UAPs.

FIGURE 6: LOCATION OF BAMBANINI AND MASINCEDANE UAPS:



Adapted from MapStudio 2005

FIGURE 7: LOCATION OF EDEN, SCAGA1 AND SAKHE UAPS:



The study details how HoH operates and examines the impacts on the UAPs with contracts. The following questions were formulated for the case study:

- ❖ What direct impacts has HOH had on the stability and general 'health' of the UAP's involved? How was this to be evaluated? The method was to assess how the five capital assets of the gardens are being affected. This was achieved by on site observation and questions to Abalimi staff and garden members. One issue is that HoH is a very recent initiative and so impacts are only just being experienced. This of course has to be considered throughout the research, however early assessment is useful as it enables trends to be identified and it is clear that some impacts were already emerging.
- ❖ What impacts has HoH had on the sustainability of the UAPs? A sustainability index had been created in 2006 for most of the gardens participating and provided useful information on the condition of the projects at that time. One method was to redo the sustainability index for the HoH participating gardens studied but this present the danger of losing the focus of the study. It would be a significantly time consuming task, require a considerable amount of Abalimi input and was not deemed necessary to ascertain HoH impacts. Also questions and indicators that were felt more relevant to the thesis statement were not part of Abalimi's 2006 Sustainability report. It was decided that a quantitative approach did not yield as insightful information as qualitative methods. Instead some of the sustainability indicators of 2006 were used to frame questions in the field and as part of the semi-structured interviews in order to determine whether or not HoH has been influential in any changes that may have occurred.
- ❖ Does HoH have the potential to move garden projects from one phase of development to another? Is there any indication of this happening? What factors are likely to have the greatest influence? Abalimi have formulated a development continuum and this was investigated further by discussion with Abalimi staff, in particular Rob Small and documentation review.

Bridget Impey, (who is a horticulturalist and part of the Abalimi management team), and the field workers/ animators, who have extensive experience with the UAPs under study, provided valuable information. All of the gardens were visited and observed on more than one occasion however not all were subject to interviews. The study had to be designed to accommodate difficulties that were encountered in following areas:

- ❖ Language: The gardeners' first language is Xhosa and the majority are not comfortable speaking English. Unfortunately I cannot speak Xhosa therefore a translator had to be used. The translator was not connected to Abalimi in order to ensure non bias and prevent answers being pre-empted or clouded by personal experience. It was however useful to discuss some of the findings with Abalimi staff. Often meetings between Abalimi field staff were conducted in Xhosa however they were able to pause and explain the discussion as their English is generally good.
- ❖ Winter weather: At the time of interviewing the weather was cold, wet and windy. This presented the logistical problem of organising interviews at the gardens when the gardeners were actually there and at a time when a translator could attend. It was difficult to plan in advance, however Abalimi field workers helped by informing gardeners that research was being undertaken and making introductions. They also helped to make appointments with the gardeners.
- ❖ The gardens are all located in the Nyanga and Khayelitsha areas of Cape Town. It was found that street maps were in some cases inaccurate and that only the main routes were sign posted. Surprisingly Abalimi staff did not know the road names where the gardens are located although the addresses were available in Abalimi files. A GIS mapping is due to begin in August 2008. It was necessary to try to memorise the locations after accompanying staff. Two half days were spent with a member of staff, driving to the gardens and plotting the sites on a street map. Security was unfortunately an issue compounded by the location. At the time of the research a visitor to one garden had their car high-jacked and in another a

contractor was robbed at gun point. This was not a typical occurrence, however precautions were necessary.

6.2 DOCUMENTATION REVIEW:

This method facilitates an understanding of the historical evolution of a project or organization through documentation. It can provide good background information about a current activity, baseline information, a particular indicator, help explain whether changes are occurring and identify key issues which need to be addressed (IFAD 2008). This method can be used in conjunction with a case study. Clarity about the questions that require to be answered is necessary in order to prioritize the likely most useful information. The reliability of the documentation must be checked, contradictory evidence noted and information gaps identified. Limitations may result from availability and accessibility of the documents. The quality of the documents and information can be affected by how it has been presented, how it is stored and possible bias (IFAD 2008).

6.2.1. DOCUMENTATION REVIEW METHODOLOGY:

Abalimi has background information, garden project evaluation reports, journal articles, dissertations and other documents, however, there was little data concerning HoH because it is a recent initiative. Some useful financial data became available towards the end of the study. Although a sustainability index (SI) was done for 2006 and charts were available to graphically show the SI, comments concerning the end values were not readily available for study. The SI analysis appears not to have been conducted as per the reports and although this may not have affected the end result there was some inconsistency in the method. The SI was used in this study as a guide to project sustainability and enabled areas to be identified for review in relation to HoH.

The documentation proved useful in providing background information and of Abalimi principals and general ethos. In particular the work of R. Small was instrumental in providing insights into furthering the development of UPAs, conceptualised in a development continuum.

6.3. DIRECT / PARTICIPANT OBSERVATION:

From a monitoring and evaluation viewpoint this method is critical to complement collected data. It can be used to understand the context in which the information is collected and help explain results. For this method a clear conceptual framework is needed and guidelines for what needs to be observed and the information required. Field trips give the outside observer an opportunity to engage in structured observations however a certain amount of time is required to know what is and is not significant (IFAD 2008).

The advantages of this method are:

- ❖ Much can be learned by watching what people actually do.
- ❖ New insights and useful information can be gained that would otherwise have been missed.
- ❖ This method can build trust and rapport between the stakeholders, project staff and the researcher.

(IFAD 2008)

Weaknesses of this method are:

- ❖ There is a danger of introducing information biases; in the observer, the way the observer influences the observed or the observed situation, hampering the objectivity of the observer. These biases can never be entirely eliminated thus it is best to use this method in conjunction with other methods.

(IFAD 2008)

6.3.1 DIRECT PARTICIPANT / OBSERVATION METHODOLOGY:

This was the main method adopted as part of the case study and was undertaken in the months of May, June and July 2008. The general schedule was as follows:

- ❖ Monday; morning meetings of the field workers at the Abalimi office.

- ❖ Tuesday; packing shed and on one occasion I went to the schools where customers picked up their vegetable boxes.
- ❖ Wednesday; accompanied field workers when visiting the gardens.
- ❖ Thursday or Friday; accompanied Bridget Impey (of Abalimi) to gardens to select produce to be harvested.

During these activities I was able to observe the operation of Harvest of Hope and ask specific questions or queries as they arose. This period was also extremely useful as it covered the transition from Summer-Spring to Autumn-Winter and showed the effects of seasons on the gardens and the operation of HoH.

At the time of the study Abalimi were beginning to redo their community UAP sustainability index. I was able to attend the workshop for the Bambanini UAP re-evaluation and access documentation for the Eden UAP's first evaluation. This enabled consideration of how HoH has so far affected the sustainability indicators of the project.

6.4. SURVEY, QUESTIONNAIRES AND INTERVIEWS:

Questionnaires are a form of structured interviewing where all of the respondents are asked the same questions and offered the same options for answering. A survey is a more general term and may involve questionnaires, face to face interviews or where researchers make their own observations. A questionnaire may include open questions (semi structured) that the respondent can answer in their own words and which are useful in determining people's feelings and attitudes. However this data can be difficult to analyze and people differ in their ability and willingness to answer open ended questions (Hofstee 2006). Some can be very specific and structured (known as closed questions) where, for example, only a yes or no answer is required. It must be decided who should be questioned and how many people should be included in the sample. The most appropriate manner of questioning must be established, such as face to face questioning or posted forms. It is advisable to pre test the questions to ensure that they are appropriate enough to give the type of information needed (IFAD 2008 and Hofstee 2006).

All respondents should be able to understand the questions easily and the questions should be neutral and not weighted to favour a particular answer. Leading the subject to particular answers is not acceptable and subjectivity should be reduced as much as possible.

The advantages of this method are:

- ❖ It can provide precise answers to carefully defined questions.
- ❖ It can be used with individuals or groups, although groups should focus on less private issues.

(IFAD 2008 and Hofstee 2006)

Some factors to be aware of are:

- ❖ Not to make the sample too big or with too many questions as the analysis can become protracted and the data can lose its usefulness if not analysed in good time.
- ❖ Good interviewing skills are important.
- ❖ If it is too structured it may inhibit openness.
- ❖ Long or numerous questions can result in a tedious exercise for the respondent.

(IFAD 2008 and Hofstee 2006)

Structured and semi-structured interviews concern face to face communication with individuals or groups. There is usually a broad set of questions to guide the conversation but that also allow for new questions to arise as a result of discussion. If the interview is open ended it should still be guided by a checklist. Questions should allow the expression of opinions through discussion, which will be aided by a logical sequence to the questions. (IFAD 2008).

The strengths of this approach are:

- ❖ It is possible to develop an in depth understanding of qualitative issues in particular.

- ❖ It is a method that is easily combined with other methods such as direct observation as the interview can take place while observing.
- ❖ It can be a relaxed way to obtain insights not possible from more structured questionnaires.
- ❖ Interesting unforeseen topics may emerge over the course of the interview.
- ❖ It is helpful for assessing unintended impacts both positive and negative.

(IFAD 2008)

Difficulties to avoid are:

- ❖ Keeping the interview focused. If not it can be difficult to compare interviews.
- ❖ The information may not be precise enough to allow statistical analysis
- ❖ Open questions can be difficult to synthesize into clear results.

(IFAD 2008)

6.4.1. SURVEY, QUESTIONNAIRE AND INTERVIEW METHODOLOGY:

Members of the five UAPs chosen for the study were interviewed to ascertain their perceptions of how HoH was affecting the projects and themselves. It was not considered necessary to interview all garden members and selection was simply based on who was available at a given time. Some were interviewed as a group as it was difficult in a small trailer or container to interview individually when other garden members were present. The questions were not of a sensitive personal nature and the members of the UAPs know each other well. The nature of the study was explained to the gardeners when requesting permission to interview them. It was made clear that they were not obliged to participate and, if they agreed to be interviewed they did not have to answer any questions that they felt uncomfortable with.

Two pilot questionnaires were undertaken and from that experience the questions and format was redesigned. When answering one question the reply would often run into another. It was decided that structured interviews would provide better information and understanding. When conducting the pilot questionnaires information was written down

however this affected the flow of questions and made the interview over long considering the translation requirement. Instead the interviews were taped. The questions were asked in English and then translate into Xhosa, the reply was in Xhosa and translated into English and recorded onto tape. The questions were designed to capture the effects of HoH on the natural, physical, social, human and financial capital assets of the UAPs. If it was possible to discover the required information easily elsewhere then that avenue was explored, particularly if the perspective of the gardeners was not an issue. In this way the number of questions was kept to a minimum in order to least disturb the work of the gardeners (see appendix 1 for interview questions).

A semi-structured interview was conducted with Rob Small on 3/07/08 in the informal setting of Smalls home. The interview concentrated on the development continuum model, how and why Small thought that HoH was affecting the gardens, possible future effects and Abalimi vision.

Consumer motivation is directly of relevance to AFNs as it is expected that there will be factors other than economic reasons for buying the HoH vegetable box. This directly affects the sustainability of the project as motivation should ideally be aligned with the principles of the initiative. It is directly relevant to the social capital of the gardens and ascertains whether there is a linkage between people that did not previously exist. In a sense the social capital of the gardens may be extended and a degree of social embeddedness may exist (see literature review 3.8). Fifty short questionnaires were sent out to the schools participating in HoH (appendix 2). The questionnaire was placed into the HoH box along with the vegetables and divided equally among the schools. Thirty were returned and fifteen of those added additional comments (an option on the questionnaire form).

6.5. STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT) ANALYSIS:

This approach is useful when qualitatively assessing a project as it is adaptable and flexible, allows perceptions to be recorded and encourages joint action. The group should

discuss and record as many factors as possible under each heading, that is, what are the strengths, weaknesses, opportunities and threats to the project? Strengths are those things that work well in the project and weaknesses are the things that do not work so well. Opportunities are ideas to overcome weaknesses and build on strengths and threats are things that constrain or threaten the range of opportunities for change. SWOT analysis can take past and current mistakes and weaknesses and transform them into constructive learning processes. The process can help to make complex problems easier to deal with and can be done as a brainstorm in a small group (IFAD 2008).

6.5.1. STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS METHODOLOGY:

I conducted a SWOT analysis with nine Abalimi staff (mainly field workers) on Monday 26th May, after the regular morning meeting. Four A3 sized pieces of paper were stuck on the wall headed either as; strengths, weaknesses, opportunities and threats. The Abalimi staff members were then asked to consider the HoH initiative and points raised were identified as belonging in one of the four categories and written down on that piece of paper (see appendices 9). The process lasted about one hour. It was a useful exercise to do prior to interviewing the gardeners as it helped with understanding some of the issues. One person, who spoke good English, tended to speak for the group. I did not get the impression that the others disagreed. I also asked others members of the group for clarification on certain points and discussion did ensue.

7. THE CASE STUDY: HARVEST OF HOPE:

7.1. THE ENVIRONMENT:

7.1.1. URBAN:

South African cities have experienced a rapid growth of the urban population since the end of influx control measures in 1986 (May and Rogerson 1995). This is particularly true of the Cape Town metropolitan area with has high numbers of Xhosa speaking black African migrants from the Eastern Cape regions of Ciskei, Transkei and other areas.

Unfortunately most of these recent migrants are living in poor conditions having settled into informal shack slums in the Cape Flats townships to the north-east of Cape Town, which contain approximately 1 million inhabitants (Ndegwa, Horner and Esau 2007 and Small 2006b).

Despite this large increase in population and some progress in extending public services in the Cape Flats area, there has not been much private sector investment and jobs continue to be concentrated in the more affluent north and west. Thus spatial divisions are being reinforced by institutional practices and market forces and are disadvantageous to the poor majority (Turok 2001). Turok (2001) takes a comprehensive look at urban integration in Cape Town and concludes that the gap between poor townships and the affluent suburbs appears to be widening. According to Turok (2001) the Cape Flats townships have a poor image and reputation, which is manifested in concerns over risk and security and has led to businesses not locating in the area. Even though there is plentiful low cost vacant land, the risks of operating there are viewed as too high. Turok (2001) claims that there is a 'culture of non payment' which affects rent collection, loan repayments, service charges and so forth. There are also local political and cultural difficulties involved in organising development, with community suspicion of outsiders often frustrating progress (Turok 2001).

Government driven housing delivery is below target and there is a back log of some 320,000 houses with many new families arriving every month (Ndegwa, Horner and Esau 2007). There have been infrastructure improvements, core road, sewage, water and electricity infrastructure is adequate although often under strain. Free primary school education is available but fees are required to go further. Bursaries do exist but they are not universally accessible, therefore many school leavers cannot receive higher education (Small 2006b and Turok 2001). Basic food prices have recently increased significantly and the basic cost of living has also gone up (May and Rogerson 1995 and Small 2006b). Small (2006b) states that "*...this coupled with high unemployment puts strain on family relations, with women often left bearing the burden of being head of the household. The traditional*

Methods to redress this imbalance are required for any sustainable improvement of the livelihoods of the poor because mal-nourished, sick, poor and often consequently unmotivated people will have difficulty bettering their lives.

7.1.2. CLIMATE:

The climatic conditions in the Western Cape vary over relatively short distances, particularly in winter, however the Cape Flats area appears to be less variable, possibly due the fact that land height differences are not large (Fermont et al 1998). The climate could be described as typical Mediterranean with wet winters and dry summers. The average daily temperatures vary about 12 degrees Celsius in winter (July) and 21 degrees Celsius in summer (January). The average rainfall is 555 mm and 80% falls in winter (April to September). The Average annual evapo-transpiration is 1899mm (Fermont et al 1998). In winter cold fronts from the Atlantic Ocean bring rain with regular strong north to north west winds. In summer temperatures are high although there is a strong and dry south eastern wind which is frequently gale force. This provides the benefit of bringing cooler air to the Cape Flats and improves conditions for vegetable production in comparison to other areas in the Western Cape (Chittenden Nicks Partnership 1997 cited in Fermont et al 1998).

7.1.3. THE SOIL:

Before inputs, the soil found at the UAPs studied was sandy and poor quality for cultivating crops. It does not retain water well and can have unfavourable chemical properties such as a very high pH value (pH 8-9) due to the high calcite content. This is especially true where natural vegetation is sparse or absent (Fermont et al 1998). UAPs must intensively use manure and organic fertiliser (particularly at the start) to enable vegetable production. The below photograph shows clearly the sandy nature of the soil and provides a comparison between the soil in its natural state and newly created vegetable beds with top soil, and manure.

FIGURE 9: PREPARING VEGETABLE BEDS:



Kirkland 29/04/2008.

Ground water levels are exceptionally high during the winter in some parts of the Cape Flats. This is due to the high water infiltration rate and no natural surface run off combined with the presence of relatively impermeable calcite layers. In August 1997 the groundwater level at the SCAGA1 garden was found to be at 3 metres in depth (Fermont et al 1998). It is therefore not difficult to find ground water for irrigation. Due to the sandy nature of the soil and the frequently strong winds it is necessary to provide wind breaks at the gardens to prevent damage to vegetation by sand blasting and to reduce evaporation of water (Fermont et al 1998). Green material windbreaks are shown in the above photograph. With time these should be planted with preferably fruiting varieties of shrubs and trees.

7.2. ABALIMI BEZAKHAYA:

Abalimi Bezakhaya, which means Planters of the Home in the Xhosa language, was founded in 1982/83 and is registered with the Department of Social Development (South Africa) as a non profit making organisation (NPO). The Abalimi mission statement is:

“To improve sustainable food production and environmental greening amongst the poor in Cape Town. The focus is on skills development through training and supporting people and organisations who wish to practice organic horticulture and micro farming. We promote sustainable development while encouraging initiatives which renew, build and conserve social organisation, self responsibility and the natural environment.” (Abalimi Bezakhaya 03/2008).

Abalimi aims to have a positive influence on food and nutritional security, health, income, employment, community building and nature conservation through organic micro- farming and gardening amongst the poor (Small 2006b). Support is given to community gardens on council owned land or within school grounds, household survival and subsistence gardens, and community greening projects. In addition to these projects Abalimi is also involved in special purpose initiatives such as Moya we Khaya (Spirit of Home) a community and environmental centre, a surplus marketing project and Harvest of Hope which is the subject of this study (Abalimi Bezekhaya 03/2008).

Abalimi targets the disadvantaged, the poor and the unemployed. In practice this has tended to mean women as they are the ones who come forward and take the idea of gardening and small scale farming into the townships. Women, mothers and grandmothers often are the heads of families and so the impact of Abalimi work goes beyond an affect on the immediate individual. The benefits are spread to the household, family and the community. Small believes that Abalimi is about protecting and supporting the family; *“The family is the foundation of cultural life; it is where the social benefits live.”* (Small, interview, 03/07/08). He also suggested that if the projects are run by ‘mothers’ they will want to get to the livelihood garden project (UAP) level. The mothers come to

Abalimi with ideas for the livelihood stage. Although often referred to as cooperatives, none of the UAPs examined in this study are in fact formally recognised cooperative entities. Instead they are people voluntarily coming together in a cooperative manner with an informal organisational structure (Small, interview, 03/ 07/08). The target group are *'self organising, becoming increasing formalised voluntary micro associations'* (Small 2006b p.3).

Currently Abalimi runs an administrative office in Philippi (the 'Business Place') and works out of two non profit garden centres in Nyanga and Khayelitsha. There are up to 12 core staff, most of whom are women from the poorer areas where Abalimi target their work. There are also up to 13 part time, contracted or casual staff. All of the staff members (except for three who are entirely administrative) are directly involved in project delivery in the field (Abalimi Bezekhaya 03/2008).

There are seven core activities or key result areas (KRAs) that Abalimi undertakes:

- ❖ KRA 1: Project implementation: Support to individual households and groups to implement gardening and micro farming projects.
- ❖ KRA 2: Resource Supply: The Peoples Garden Centres at Nyanga and Khayelitsha are non profit making nurseries. They provide information and free advice and subsidised gardening inputs such as trees, soil improvers (manure), seed and seedlings, basic tools, windbreaks and safe pest control remedies to the target group.
- ❖ KRA 3: Training. Abalimi train up to 1000 people each year. They run 4 day basic organic vegetable growing courses, year round technical follow up support with site visits and demonstrations to projects. An Agric planner training game has been developed by the South African Institute for Entrepreneurship with Abalimi help. It enables the instruction of people who are illiterate. It instructs trainees on agric business principles and practices for vegetable gardening.
- ❖ KRA 4: Community Building: Through mutual help work events, horizontal farmer learning events and savings mobilisation.

- ❖ KRA 5: Partnerships and Networking: Abalimi assists community projects to connect to other opportunities and services which they require.
- ❖ KRA 6: Research, Monitoring and Evaluation: Abalimi has hosted and collaborated with many researchers over the years and continues to do so. Abalimi uses the results to develop its own practices to enable projects to become more sustainable.
- ❖ KRA 7: Organisational and Financial Sustainability: Ensuring that Abalimi; legal, general and financial development, human resources, fundraising and communication functions, are efficient and healthy to deliver to the target group (Abalimi Bezekhaya March 2008).

Since 1991, Abalimi interventions have been led by infrastructure delivery and resource supply (KRA's 1 & 2), strongly supported by basic training (KRA 3). Increasingly further support has been in the form of KRA's 4 to 6. In this way, by enabling the production of food and some income generation at survival and subsistence level, Abalimi has helped to launch an organic micro farming and garden movement among Cape Towns poor (Small 2006b).

As government agencies are now also intervening in the KRAs 1 and 2, Abalimi can focus on what they believe is most needed now, that is expanding and intensifying the training of KRA 3 to provide higher broader skills beyond the basic competency level. A new training continuum referred to as the Community Project Development Continuum and Sustainability Index was developed which conceptualises the development of garden projects through skills development (Small 2006b). Abalimi experience of projects and initiatives has shown that it takes time to properly secure human and environmental sustainability at the community level. Small (2006b p.4) reasons that *'...sustainable development will eventually falter at the macro levels if it is not driven by motivated individuals, collaborating within local communities, making sustainable, viable projects at the micro level.'*

Provided that support continues to be available, for example from Cape Town City Council, the Department of Agricultural and other government bodies, Abalimi can

concentrate on designing and applying the development and training continuums. It is hoped that the effect will be to encourage others, including young people and men, to be involved as a greater number of community projects experience an increase in benefits brought by capacity building and related project support (Small 2006b).

The challenge for an NPO like Abalimi is to ensure that the projects they support continue to operate in a manner consistent with the aims of Abalimi as they develop. In fact Abalimi proposes to research and develop a community based commercial level model which retains and enhances wider social and nature conservation benefits, while at the same time realising viable profit (Small 2006b). This is a key factor when examining the effects of a new initiative such as Harvest of Hope on the UAPs involved. Early evaluation will help to identify possible effects which stray from the overall objectives of Abalimi.

7.3. PHASES OF DEVELOPMENT IN COMMUNITY URBAN AGRICULTURE PROJECTS:

Small (2008) has identified four phases of development for community UAP's:

- ❖ **Survival Phase 1:** Produce is seasonally grown for own consumption with a little sold to buy some essential garden inputs. Otherwise the inputs are free (being either self collected or self produced such as compost or use of grey water) or permanently subsidised. The minimum production area is 50 square metres (sqm) per member/ family. Some saving may begin as the garden develops.
- ❖ **Subsistence Phase 2:** Produce is seasonally grown for own consumption but production is intensified which results in a regular surplus of crops. Selling becomes more significant and the cash goes to supplement household income. Some saving occurs and re-investment into the garden begins. This should result in yet greater productivity. The minimum production area is 50 sqm per member/ family
- ❖ **Livelihood Phase 3:** Some produce is grown for own consumption but production is moderately intensive and continuous. Selling vegetables is the primary activity and provides a greater proportion of income. Saving is stable and regular. Reinvestment occurs and profit earning begins. Other income earning activities

may occur on site such as a soup kitchen or craft production and this greater diversity should increase stability and sustainability. Project vulnerability can be reduced with the mutually supportive activities. The minimum production area is 100sqm per member/ family.

- ❖ **Commercial Phase 4:** Some produce is grown for own consumption but the majority is sold for profit. Selling, saving, reinvestment, profit and eventually formal job creation occurs. The minimum production area is 500sqm per member/ family.

Defining phases of development is useful in order to suggest a path through which projects may progress, increasing in sophistication, income generation (commercialisation) and sustainability. Within each phase projects will vary in the degree to which they display the above characteristics. More sophisticated skills are required by UAP members as the projects move through the phases which can present a challenge given the low education level of many UAP members. It follows that the nature and mix of subsidies and support will differ at each phase and between the UAPs. Small (2008) states that it is not possible to jump phases but it is possible to fast track the process and shorten development, learning and application; depending on the people involved. At the basic level, produce is mainly for the gardeners own consumption, but as the UAPs progress the commercial (selling) element takes on a greater proportion of the work effort. With this increased income, saving and investment can grow over time until profit earning can begin. When development is viewed in this way it can be seen that income generation is an essential element. Small expects that that it will take between three to seven years for a phase to be completed and that the actual transition process could take anywhere from one to seven years (Small 2008).

Before Harvest of Hope, most of the community gardens were considered to be at survival level, with some progressing to subsistence. SCAGA 1 was (and still is) the most progressed UAP and pre-HoH was considered as a subsistence garden progressing towards the livelihood model. At each phase and stage of development the UAPs can be less or more sustainable (Small, interview 03/07/08).

NPO's and similar organizations wish to maximize the social benefits of their work. Small's development continuum suggests that when projects operate at the commercial level social benefits are reduced. It is not compatible with the remit of most social development agencies to continue to significantly subsidize more commercial operations, although as previously discussed all forms of commercial farming throughout the world have some form of subsidy. Any UAPs which become commercial will have to be more sustainable as Abalimi cannot indefinitely continue to provide the same levels of subsidy. This is a reality of commercialization, however Abalimi wish to develop a new commercial model that will allow the social benefits that exist at the livelihood stage to continue (Small interview 03/07/08) and so perhaps some degree of subsidy would be justifiable.

The way forward is to continue to provide the right kind of support, such as some subsidised inputs (where UAP own provision or purchase is not yet possible), training and/or other support that strengthens the UAP's capital assets and encourages greater sustainability. It is argued in this study that a marketing initiative like HoH has the potential to provide this kind of support.

7.4. THE SUSTAINABILITY INDEX:

In 2005 Abalimi developed sustainability indicators for the urban agriculture community gardens. The indicators were divided into three categories, namely physical, organisational and Practical (skills/ knowledge). Appendix 3 gives the indicators used and appendix 4 consists of tables informing how these indicators could be applied to the gardens in the survival, subsistence and livelihood phases of UAP development. The sustainability index (SI) gives an indication of the ability of each project to sustain itself. A garden may receive free seed from the Department of Agriculture and therefore have a sufficient quantity, but will not be considered sustainable in this regard as they do not produce or purchase their own. In such a case the physical capital of the UAP is strengthened but not the sustainability. This means that a UPA may be strong and stable because of support but may not be self reliant or sustainable and so the relationship between capital assets and sustainability is not as straight forward as might first appear.

From the end of February 2006 to April 2006 Abalimi conducted sustainability appraisals. The aims were;

- ❖ to introduce a system to monitor the sustainability of each urban agriculture community group,
- ❖ to monitor training and ascertain whether Abalimi was providing the necessary type of training to enable groups to achieve sustainability,
- ❖ to create awareness that sustainability is possible for each group and how it can be achieved.

It was decided at the beginning that the first assessment would cover survival gardens and if any group achieved 100% a further assessment would be conducted for sustainability at subsistence level and so forth. The results for three of the gardens studied are shown in appendix 5. The SI gives some idea of the sustainability and operation of the groups and garden projects in 2006. None of the groups achieved a score of 100% sustainability at the survival level although two groups; SCAGA 1 in Khayelitsha and Masincedane (Fezeka) in Nyanga achieved many criteria required at subsistence level. Over half of the gardens in the study are now involved with the Harvest of Hope project. In November 2006, gardens not included in the last appraisal were assessed and some of these are also involved in HoH. This information is useful as it will enable a comparative assessment of the sustainability of each project to be made in the future.

An SI appraisal workshop was undertaken at the time of this study for the Bambanini (Nyanga) and Eden (SCAGA 2) UAPs. I attended the Bambanini UAP self appraisal workshop and the final appraisal meeting of the field workers considering Bambanini and Eden. The groups evaluated themselves first in the presence of the field workers who helped explain the indicators and answered any questions that arose. The field workers then undertook their evaluation separately taking into account the groups own evaluation and this was taken to be the final evaluation. Discussion ensued as to whether this was the correct approach. The field workers did not have the time to go back to the groups to compare and discuss the results. A third way of evaluation was suggested for future appraisals, that

of both the groups and the fieldworkers doing a joint evaluation together, discussing and agreeing a final score at that time. Notes of the Bambanini (Nyanga) project evaluation can be found in appendix 6 along with the SI for Eden and Bambanini. Where relevant I used the SI indicators/ criteria as indicators of possible impacts on sustainability arising from HoH.

7.6. HARVEST OF HOPE:

7.6.1. HISTORY:

In 2006 the South African Institute of Entrepreneurs, Just think and Abalimi were contracted by the 'Business Place' to:

- ❖ Develop a small contract ordering system for vegetables and seedlings and develop steps to achieving organic certification. This included; researching organic certification processes by Abalimi, development and laying out of training materials and work cards and setting up a visual small contract market and display system.
- ❖ Deliver training to eighty community members through the fifteen producer groups.

This contract was a component of the Business Place's over all organic pack shed and training development program (Abalimi 2007b).

Just think developed a computer programme (excel) based ordering system and designed and developed organic training modules which were tested with Abalimi staff prior to training delivery. At a subsequent meeting concern was voiced that, although the training was to assist producers to become organically certified, it was more important at that initial stage to be sure that they were able to grow a regular supply of produce for the pack shed. It was agreed that the budget for training be redirected to address that concern. The training programme was thus reconceptualised by Just Think into a practical gearing up for agric-business. Identified contractors began growing to agreed targets in

November 2007 and the first deliveries began in the first week of February 2008. Farmers are contracted to grow seasonal organic vegetables at guaranteed prices (Abalimi 2007b).

7.6.2. OPERATION:

Harvest for Hope (HoH) is the organic vegetable box scheme run by Abalimi. It provides an AFN for the organically produced vegetables of small scale community urban agricultural projects located in the Nyanga and Khayelitsha areas of Cape Town.

FIGURE 10: WASHING AND PACKING VEGETABLE FOR HARVEST OF HOPE:



Kirkland 29/04/2008.

Individual customers receive a box of freshly picked vegetables that are organically and locally produced. The niche market is families associated with Cape Town City primary schools and the boxes are delivered to the participating schools which act as collection and delivery points on a weekly basis (Just Think 2008). There is great potential to expand the scheme to other institutions and recently staff of Cape Town University signed up.

Individual customers sign a contract to HoH to buy a weekly box of vegetables. The UAPs are contracted to set aside a specified area for HoH and produce vegetables to specified targets and delivery dates. The produce is collected once a week and brought to the pack shed at Philippi where it is washed and repackaged into the vegetable boxes. They are then delivered to the distribution points on the same day.

Abalimi administer the project finances and the growers receive their money monthly. At the time of this study, approximately 100 boxes are sold each week and customers pay R85 for each full box with a range of seasonal vegetables. Payment may be made per school term (four quarterly payments per year including school holidays) or monthly, preferably by direct debit. Families make their first payment in advance and pay a deposit for their HoH box. Each week they return their box and collect their new box of fresh vegetables at the end of the school day. If people are unable to collect their box it is donated to charity unless otherwise arranged.

HoH must sell more boxes to enable a decent amount to be earned by UAP members and for Abalimi to break even. Only supplying a hundred boxes does not provide enough income to sustain a livelihood for the gardeners involved. If 300 boxes are sold then the gardeners could earn approximately 600 rand each (Abalimi 2007b), however this is an average figure and some gardens produce more than others (see Figure 23). It is not envisaged that there will be difficulties in expanding as there is potentially a huge market.

Sometimes the groups buy or produce their own seedlings, or buy from Abalimi and the costs are deducted from the amount earned each month. Abalimi field workers provide assistance to the gardeners, giving advice, helping with planting and organising fertilizer and so forth. Most produce is ready to harvest within three to four months. Abalimi field workers visit the gardens on Thursdays and Fridays to determine what is available for harvest. This information is passed to Bridget Impey of Abalimi (who also visits the gardens) on Friday and creates a picking list. This list is available and used in the regular Monday morning team meeting to determine how many boxes can be made, what vegetables are available, how much surplus there may be and so on. Early Tuesday

morning the vegetables are harvested by the gardeners and then transported by Abalimi to the small pack shed to be weighed, washed, sorted and packed before being delivered to families via schools in Cape Town. Women from a women's refuge located close to the Business Place are involved in the packing process along with Abalimi field workers, other team members and volunteers. Any surplus vegetables are given to local organisations helping the poor such as clinics, soup kitchens and so forth.

The HoH project is run by Abalimi and there is no other source or supporting finance. Abalimi want to operate HoH as a development tool. It will be grown like a business but not for profit, the aim is to further projects along the development continuum. It is hoped that in this way it will better achieve Abalimi goals. *" We are thinking that the benefits must be spread as wide as possible but need a few people to make quite a bit of money that will generate envy and give people an incentive (to develop their UAP).The aim is to create living examples of farmers who have done well. Other gardeners need to see that there is a fair process to get to that level. We hope that everyone will want that. "* (Small, interview 03/07/08). However, Small (interview 03/07/08) is conscious that not everyone is an entrepreneur and the project allows for those who may simply want a small regular amount of income such as the older people involved in UAPs. These UAPs can devote less of their gardens to HoH; it depends on who is involved and what they want.

Abalimi Staff involved in HoH receive a salary but there will not be shareholders or other stakeholders to drain away money. The gardeners should get profits back into their projects, not directly into their pockets. The intention is to help project stability and possible further development. This also ensures that HoH will continue to be supported by donors to Abalimi and HoH customers because experience has shown that when profit is made others are less likely to want to give (Small, interview 03/07/08).

UAPs involved in HoH must:

- ❖ Have a bank account.

- ❖ Have vegetables ready at 7am (harvest picked at 6am) on Tuesday morning in summer although in winter harvesting of some vegetables is acceptable on Monday evening.
- ❖ Ensure that the vegetables are prepared properly, being relatively clean, bunched and tied with string.
- ❖ Use the correct equipment, such as; sterilising agents, crates, boxes, large plastic bath, bucket, string, brush and a knife. People's hands must be kept clean, as must the Abalimi van used to transport the produce.

(Abalimi 2007a).

Gardens were initially selected to participate in HoH based on the field workers knowledge of whether or not the UAP would be able to operate in the required manner. It was realised that garden size was not as important as the capacity of the members to produce the vegetables (Direct communication with Brigit Impey and Vatiswe of Abalimi, 18/07/08). An underlying principle was that the gardens should not have more than 50% of the plots dedicated to HoH. This was motivated by concern that the UAPs should continue to produce for themselves and the community, to ensure the spread of social benefits and not turn the gardeners into exclusive producers for only the wealth of Cape Town.

A production planning system was developed to ensure an ongoing supply of produce. Plans are made of what crops to grow to fill the boxes each week. Each garden has a weekly to do list and a planting and harvest schedule. Abalimi estimated that an area of 547 sqm must be under production per 100 boxes (Abalimi 2007b). There appears to be difficulties with efficient seed to plant production. Abalimi used the Hybritech seed company figures and even erred on the side of caution by looking at the lowest yield ranges, yet the UAPs are under producing by approximately two thirds. This could be due to the poor soils although the reason is not clear. It is also difficult to assess the problem because the UAPs do not only use seed and seedlings bought from Abalimi. The Department of Agriculture often gives free seeds. Currently Abalimi is working with the Sustainability Institute to help the UAPs set up a seed saving program. All the seed being

used in the gardens must be open pollinated varieties so that seed can be harvested. Some garden members visit the Eastern Cape once a year and are to be encouraged to bring back seed varieties of what they like. This should improve the seed genetic diversity and it is hoped that gardeners will swap seed and cross pollinate. This will also keep costs down for the UAPs.

In order to supply HoH, UAPs must have planting plans and practice certain methods that comply with organic production principles and enable them to meet demand. The planting and harvesting wheel contained in appendix 8 demonstrates that with careful organisation, harvesting can be carried out all year round. No chemical pesticides or fertilisers can be used in line with organic production principles. Intercropping allows staggered harvest dates and a diversity of vegetables to be grown. Crop rotation helps to protect the fertility of the soil. UAPs plant crops in separate rows in order to enable the easy calculation of seed needed for production requirements. Vegetable varieties that allow continuous cropping are encouraged.

7.7. THE UAPs SUPPLYING HARVEST OF HOPE:

There are 13 UAPs that have plots contracted to HoH. Although all were visited only 5 were examined in depth, however where data could be easily attained for the other projects it is used in support of the study. All of the gardens (except SCAGA 1) were considered to be at survival level progressing to subsistence before HoH. SCAGA1 was considered to be at subsistence level.

7.7.1. THE SIYAZAMA COMMUNITY ALLOTMENT GARDEN ASSOCIATION (SCAGA) 1:

Located in Steve Tshwete Road opposite Sizimisele High School in Khayelitsha, SCAGA 1 is considered to be a flag ship UAP. It was one of the first community gardens in the area and although there have been problems in the past, caused mainly by social / member tensions, these appear to be mostly resolved and the UAP is stable. SCAGA 1 is perhaps the most developed community garden and there are hopes that it will soon become a stable, largely sustainable livelihood level project.

On 20/06/08 I interviewed three members, Margaret (68 years old), Mary (51 years old) and Monica (59 years old)². In July I also discussed the SCAGA 1 UAP with Christina, who is both a member of the UAP and the Abalimi Programme Manager. Christina was able to clarify some organisational aspects of SCAGA 1 which were not made totally clear from my interview with Monica, Margaret and Mary. Monica and Christina have been involved with the UAP from the beginning in 1997, the others joined later.

FIGURE 11: SCAGA 1 UAP:



Kirkland 29/04/2008.

SCAGA members have farmed this strip of land since 1997. There are currently eleven members all of whom are women. Eight members of this UAP have a joint bank account and work communal plots as well as their own individual plots. Three other members have

² The names have been changed.

only their own plots. HoH operates differently here than with other UAPs because of the way in which the garden is divided. The communal plots are located in one half of the garden and are market orientated and contracted to HoH. Money earned from the vegetables produced here goes to the joint account which is accessed at the end of the year. The other half of the garden comprises of individuals plots, some of which are also contracted to HoH. The income from these goes to the members own personal bank accounts. Not all individual plots are contracted to HoH, some are for the members own use, however this produce may be bought by HoH to make up any supply deficiencies. Two members (who are not part of the joint bank account group) are also Abalimi staff, which helps to keep the project stable.

The site is approximately 5000 sqm and is well organised with regular plots. There are 5 rows of vegetable plots, then a planted mature windbreak, then another 5 rows and a windbreak and so forth, along the entire length. There are water tanks, a spray irrigation system, sufficient compost and fertilizer and covered seed beds. There is a container unit for equipment and a building used for meetings and small entrepreneurial/ service initiatives. It is hoped that this will be developed further and the gardeners seen keen to do so.

The total plot area of the SCAGA 1 garden contracted to HoH was 766sqm. I did not estimate the area of plots that are for members own use. I felt that this would give a false impression because the non-contracted plots were not regularly planted at the time of my visit; some plots only had a few plants while others were full with evidence of mixed cropping (spring onions around the edges). There were also empty plots on this side of the site, therefore a comparison on the basis of area was relatively meaningless. HoH was also taking some produce from these non-contracted plots, at least 50.4sqm. It appeared that the contracted side was producing more although the area constituted approximately half of the garden.

According to Abalimi field workers, SCAGA 1 members still produce enough for themselves but the amount is less as a result of HoH. In the past a lot of produced was not

sold, rotted and was wasted. There is a definite distinction between what the local population like to eat and what HoH require to be grown. Locals do not tend to buy cabbage at the fence because a certain times of the year they can get it much cheaper and bigger from the shops. Locals want big produce, HoH needs quality organically produced vegetables. Kale and Broccoli leaves were a firm favourite of Zimbabweans but since the xenophobic violence that occurred in the area in May, demand has been disrupted.

Harvest of Hope has not led to an increase in the area cultivated but the group are producing more in that given area. The plots are the same size, the difference is that crops are continuously growing, that is, they have adopted continuous cropping methods and grow a greater variety of vegetables. They are using more compost and other inputs because production has increased, although in winter they do not need to irrigate more.

The Department of Agriculture have also provided some assistance but mainly support comes from Abalimi and they feel that their contact with Abalimi has increased since participating in HoH. They would like to increase the amount that they grow for HoH but to do this they may need more people. At the moment, at the current level of production, they do not think that there are any limiting factors. They say that they have not experienced any difficulties due to HoH and do not feel under any extra pressure or stress. HoH has not caused them to spend more time in total at the garden but they spend a greater portion of their time on HoH plots than on their own. Only when they have finished with HoH plots do they work on their own plots. They spend two days on HoH and the third on their own plots. They go to garden every day and Bridget of Abalimi suspects that there is also a social element involved; the ladies enjoy having somewhere to go to. The building on the site provides shelter and a place to meet. The members would like to have sewing machines here so that they could also have another income source. As they can not garden in wet or very hot weather they would like to use their time productively at the site. Such activities would be compatible with the livelihood model UAP.

HoH encourages them to work on the plots because it has made a big difference to their income. Margaret has her own pension, her husband's pension and child grants but

has eight people living in the household. Mary has no income except from the UAP and child grant and has four people in the household of which she is the head. Monica has only her husband's pension and income from the UAP and has ten people in her household. The three ladies interviewed together are part of the group with a joint bank account which they will not access until the end of the year. Any money that they earn from their own plots goes to their own personal bank accounts. This includes income from; individual contracted HoH plots, produce not contracted but which supplements HoH, selling to the community and to the Ethical Co-op. Having a regular income from HoH has enabled them to access credit. This can be considered a good or bad thing depending on individual circumstances, as servicing debt can be a serious problem for the poor.

HoH takes some produce from non-contracted individual plots but these are mainly for own consumption, selling to the local community and also some is gifted to those less fortunate, such as TB suffers and people in community halls. Harvest for Hope pays the most altogether although the gardeners charge more per individual item when they sell 'over the fence' to the local community. Harvest of Hope is the main source of income because the amount ordered is bigger and regular. They say that HoH does not take a lot from their own non-contracted plots, only if there is a shortage from the contracted plots, usually 4 or 5 bunches are taken. However when I visited the site on the 19th June 2008, and in contrast to an earlier visit in May, there was very little to be harvested. As a consequence nearly all produce (whether contracted or not) that was ready to be harvested, was taken by HoH. In June, plant growth significantly slowed down due to the cold weather. Carrots were still small but it was decided that the ladies should thin them out and packaged them as baby carrots for HoH. It was also possibly to use baby spinach in this way.

The group say that they enjoy gardening, keeping busy and being active. They believe it keeps their bodies healthy and they feel fresh and young, they stated, *"We would rather be at the garden than at home worrying about our problems."* They said that working in the garden relieves stress. They don't mind getting up in the morning, even 6.30am on

Tuesday morning for harvesting. They are very happy with HoH and said *"...it makes us feel stronger and at the end of the month we can walk to the bank!"*

7.7.2. EDEN (SCAGA 2):

There are 4 male gardeners who are members of the Eden UAP. They previously farmed a site near the N2 Motorway from 2000 to 2007 but came to the current site at Oscar Mpetha Road recently in July 2007. They are now located close to SCAGA 1. The group originally consisted of others, including some women but the women members stayed at the old site.

FIGURE 12: EDEN UAP MEMBERS:



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I interview one member of this UAP at the Eden site on 20/06/08. Sam³ is 49 years old. He said that the training he received from Abalimi has been useful for participation in HoH. Abalimi have helped with the planning, planting and other things, he explained, *“There is a person who knows everything and helps us a lot.”* He was referring to Joyce, the Abalimi field worker who oversees this UAP. When the site was first planted for HoH it was summer and Joyce visited the project at weekends to ensure that the seeds were properly watered. Joyce (dir.com 05/06/08) said that the men listen, ask questions and do what she advises. The gardeners are in every day and even on weekends. Joyce claimed that the men now spend more time in the garden as a result of HoH and that it has concentrated the work effort. Sam stated that they spend more time in this garden (when compared with time spent in the old garden) because of HoH. The gardeners are more organized as they must look after the crops because they know it will be sold to HoH.

The Eden UAP is on a rectangular 3280sqm site and well organized although the plots are fairly new (planting began in October 2007). At this time there is no planting around the edges but there are material wind breaks at intervals, approximately every 8 rows along the rectangular site. Bridget (of Abalimi) remarked that the members should be encouraged to plant bushes and trees with edible fruits or place chillies in the boarder to encourage gardeners to pay more attention to the wind breaks (dir. com. Bridget 05/06/08). Evidence of planting along the windbreaks can be seen in the photograph below.

At the time of my visit on the 5th June 2008, there was not much ready to harvest although on previous occasions in April and May there appeared to be more. Some seeds had failed, this information is important to Abalimi because they need to know in order to organize more planting. Some of the beetroot was damaged when the new irrigation system was put in. The site has good security and so far there has been no theft of produce.

³ Name changed.

FIGURE 13: EDEN UAP. WINDBREAKS AND PLOTS:



Kirkland 29/04/2008

The gardeners were taught their skills by Abalimi and they have recently undertaken the more advanced agric-planner course and are going to repeat it. Before the 17th June 2008 there was only hose pipe irrigation but now there is a sprinkler system. This was funded by the Department of Social Services and the work undertaken by Abalimi.

The size of the area under cultivation has not changed but Sam suggested that they are going to increase the area of production, mainly for HoH. Although the site is fairly new Sam believes that they are producing more now with HoH than before the initiative because they now have a regular market for the vegetables. Planting is now continuous which Sam thought was the biggest change in the way they cultivate. He maintained that having HoH has made them realise that there is a bigger market that they must get the vegetables ready for. Inputs have increased such as compost use and water, which is to be expected as they are producing more. They are also producing a lot of their own compost now. The water consumption may not increase much due to the new irrigation system

installed which should be more efficient but it is winter and so difficult to judge. It should be noted that this UAP is relatively new at the current location and was not operating long before the HoH initiative.

The Eden members want to increase the amount that they produce for HoH. Sam thinks that the only factors limiting production are that they need help and want more people to join their group as their market is growing. He would like some stipend payment which would encourage others to join. He does not think that HoH has created any difficulties for the UAP and does not feel under any pressure or stress.

The income generated from HoH goes each month into the group's joint bank account. The income has increased due to HoH because it is a new market. Sam sells some of the produce from his own individual non-contracted plots to buy electricity and commodities. He also eats his own vegetables and said that it would not be right to plant, grow and sell something and not taste it himself. He joked, *"I do not want to poison people!"* Sam said that he has no other sources of income. The group made a rule that members cannot leave the garden for more than one month to pursue other work, they consider the garden to be a full time occupation. He is the head of his household and his wife and son also work.

HoH has resulted in the garden producing some varieties of vegetables that local people do not tend to eat, such as Kohl Rabi, Runner beans, Kale and some lettuce types. Kale and broccoli leaves were grown for Zimbabweans but this market had diminished. Spinach, carrots and cabbage are more to the local people's preference. Sam said that he spends about ten percent of his time on his own vegetables and the rest on HoH. He is also on site at the weekend mostly due to HoH. He explained, *"When the seed trays come we have to plant the seedlings straight away or at least finish the next day."* HoH takes up most of his time but he is grateful for it. He gave the following explanation of why he is part of the Eden UAP: *"I was not working and didn't want to roam around the house doing nothing. I wanted some form of income, wanted to bring something to the table. I come from the Eastern Cape and my father and my grandfather didn't have formal jobs but cultivated. I decided to do the same thing."*

I measured the plots on the 5th June 2008 and calculated that the total area of plots contracted to HoH was 580.08 sqm plus another 60 sqm of aubergines that were subsequently taken by HoH. The non-contracted plots amounted to an area of 578.4 sqm, not including a small irregularly planted patch located behind the seedling area, which was not measured. Contracted plots for HoH therefore constituted about half of the planted area.

7.7.3. SAKHE:

This site is approximately 1574sqm and located in the grounds of Nomsa primary school in Anton Fransch Street, Khayelitsha. I interviewed Simon⁴ at the Sakhe garden on 02/07/08. There were five members but two went to find work elsewhere. Three remained but one man had car accident in December 2007 and is still on sick leave. There are only two men working this UAP at the moment. The men were producing vegetables at the site before supplying HoH but have since become more organised as a group. They have meetings and keep records of inputs and outputs. Simon said that they have a book where he writes down manure received, seedlings and so forth and that he records everything. The income earned from the project goes to a joint bank account and will be shared out at the end of the year.

When I visited this site for the second time on the 19th June 2008 there was not a lot of produce in the garden. Only one person was working because the other was attending a 'Food Sovereignty' conference at Pelham, with Abalimi staff. There were bushes and shrubs around the site although no wind breaks between the plots. When I measure the garden plots on this day approximately 40 sqm was not contracted to HoH, the rest, 310.6sqm, was all HoH. This figure does not include 35sqm of Cabbage and Kohl Rabi that were not originally contracted but were later taken for HoH. The gardens were generally quite empty due to a significant slow down in plant growth over the colder period. On the

⁴ Name changed

day that I interviewed Simon at the garden (2/07/2008) almost all of the plots were contracted to HoH except for a small 9 sqm tomato patch.

Simon confirmed that the members of the Sakhe UAP had all received training from Abalimi and from others organisations. They have done the agri-planner course with Abalimi and he feels that it was useful for their involvement with HoH. He very recently attended a conference with other Abalimi members and confirmed that the group has had more contact with Abalimi since HoH.

FIGURE 14: SAKHE UAP:



Kirkland 16/04/2008.

Simon explains that HoH has changed the way in which they plant and work the garden, *"Before, we didn't work like this, you know, making our plots differently. We used to make a large plot. Now the plots are smaller, better for raising plots, better for growing and*

easier to work, not walking on the seeds. It is easier to calculate the seeds. It is better than before.”

The total area of the UAP has not changed as a result of participating in HoH, however they are using more of the garden than they were before. Simon claims that he now spends more time in the garden due to HoH. They plant more because the cost of the seedlings that they buy from Abalimi is deducted from their income generated by HoH. This means that they do not have to pay for up front for seedlings which enables them to purchase sufficient amounts. Self production of seedlings would be the next logical step. They now use more inputs such as water and compost which is directly related to the increase in production as a result of HoH.

Simon is not certain if the group will increase the amount they contract to HoH or not. He is concerned that their UAP should have some vegetables for the community and that if they grow more for HoH there will be less for others. However, previously the produce was not selling well at the fence to the local community and last year a lot of cabbage was wasted (rotted). He says that he would like to develop the garden more to generate more income but also use under utilised plots for the group's own consumption and to sell to the community.

HoH is the UAP's biggest source of income. Simon personally has no other sources of income. He is the head of the household which consists of his wife, two grandchildren, daughter and son, three of whom are working. At the time of the interview there was almost no area for the members own non-contracted plots. Simon said that they eat what HoH does not take, that is vegetables left over for whatever reason (e.g. attack by pests or ripened later). He does not however need to purchase many vegetables from the shops. Almost all of the garden plots are contracted to HoH.

Simon did not think that there were any factors which limited production at the site, but not having a container creates difficulties with storing tools and for shelter in bad weather. Some time ago a container unit was delivered and positioned at the road side

fence boundary, unfortunately in the night it was somehow stolen. He said there were no difficulties caused by HoH and he does not feel under pressure or stress as a result of the initiative. He thinks that the scheme is working fine. He said that he enjoys working in the Sakhe garden.

7.7.4. MASINCEDANE (FEZEKA):

This UAP has the largest site area of approximately 10000sqm and is located at the Fezeka public works depot, Guguletu/ Nyanga. It has a large electricity pylon to one side of the land and power lines cross the site. The whole site area is not yet fully utilized; there is still uncultivated ground and room for plot expansion. There is a container unit on site used to house tools, seeds and planting information and as shelter. There is adequate compost and fertilizer, some of which is self made and a sprinkler irrigation system exists. The site appeared to be clean and relatively weed free on my first visit. After a spell of rain the weeds had taken a hold on some plots, however, with the help of a school out-reach program facilitated by Abalimi, plots were cleaned and prepared from planting.

Masinedane receives support and subsidy from Abalimi in the form of training, physical and technical help and subsidized compost and seedlings. There are 6 members who are all women over 70 years of age; in fact the oldest member is 90 years old. They have been gardening at the site as a group since 1999 but according to them they were not really organized until they became involved with Abalimi in 2002. All of the current members started at the beginning of the project. I interviewed Matilda aged 73 and Martha⁵ 78 yrs old at the garden on 18/06/08.

Supplying HoH has resulted in changes at this UAP. Matilda and Martha both said that although the total area of cultivation has not changed, they are planting differently. They now have to follow planting schedules and must know how many seedlings to plant per

⁵ Changed names.

square meter. The planting is now more efficient and more is produced in the same area with continuous cropping being practiced since HoH. I measured the plots on site in June and found that the area of plots contracted for HoH was 1170 sq m (65.3%) and the area for their own non-contracted production was 621 sq m (34.6%).

FIGURE 15: VEGETABLE PLOTS AT MASINCEDANE;



Kirkland 08/04/2008

The members interviewed did not feel that HoH had changed the way the group is organized but it has affected the way that they operate in the garden. Matilda said that she spends more time in the garden than before and goes home later, she also said that HoH has encouraged her to be in the garden. However Martha, the older lady, said that she works the same Monday to Friday as before HoH.

Both maintain that HoH has not placed any pressure on them or caused stress, they enjoy gardening and that has not changed. They both also expressed the desire to keep fit

and healthy and believe staying active in the garden helps. The only difficulty they have is waking early on cold mornings especially on Tuesday which is harvest day. The Tuesday early start is difficult for Martha because her grandchild only goes to the crèche at 8'oclock, and sometimes she is late.

FIGURE 16: MEMBERS OF MASINCEDANE UAP:



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Both members said that they use more inputs due to HoH (for example, compost and water) because they are producing more. Matilda and Martha felt that their gardening skills had been improved as a result of participating in HoH. Matilda wanted further training in looking after different types of vegetables and commented that HoH had expanded the variety that they now grow. Martha did not want to train further.

Although each member is given specific plots to look after, it is all considered communal and all proceeds go to the group's joint bank account. Allocating plots is simply

a way of allocating work. The work is shared out equally and when they receive seed trays from Abalimi they share them out. Matilda said that a benefit of HoH was that there was a regular income to the group's joint account every month. However, Martha did not consider the income as regular because it does not go directly to her; instead it goes to the joint account which can only be accessed at the end of the year. Both speculated that this was a reason why people were not eager to join the group, particularly young people, because they want immediate payment.

HoH pays more than selling over the fence; they sell a little surplus to the Ethical Cooperative and none to local shops. As the members are over 65 years old they all receive a monthly state pension. Matilda said that years ago she took responsibility for three orphaned boys who are now grown men. They still live with her but all work, which helps her. Martha has three grandchildren living with her aged 5, 18 and 21 years but only she has an income from the UAP and her pension.

When asked if they would like to increase, decrease or maintain the same amount that they grow for HoH over the next three years, Matilda said that she would like to increase the amount, *"...if I'm still alive, because I'm old. More vegetables will bring in more money."* Martha said that she didn't want to increase the amount contracted to HoH because, *"I'm getting older, I don't think that more is a good idea."* Age is clearly a factor affecting this consideration. Martha said that the level of production would depend on her health and how she was feeling. They identified limitations to their production such as not getting things that they needed on time (e.g. seeds or manure) and needing more people. Improving sustainability would overcome this problem. Abalimi currently organize the delivery of inputs such as manure and some seedlings for the UAP. Natural and physical capital assets are strong at this site but the human capital is unlikely to greatly improve given the age of the members. There is certainly more motivation now although the ladies were always very keen to garden. The organisational abilities and record keeping of the current members is unlikely to improve much.

When asked how they divided their time between HoH and their own plots, they said that they spend nearly all of their time on HoH vegetables. Even so, Matilda said that she eats more of her own vegetables since HoH because she knows that the HoH vegetables will all be taken. She reasoned that she must thus allocate space and time to her own plots and actively give her own vegetable production some thought. She also said that she eats a greater variety of vegetables now because of the new types introduced for HoH. Martha said that she tends to eat the vegetables left over from HoH and sometimes this means that there is less to eat than before. There are some varieties of vegetables that she grows for HoH which she has not eaten herself because she said that she does, “...*not want to eat odd vegetables.*” In the past they gave surplus vegetables to the sick but now there is less to give since HoH. The interviewed members demonstrate how people in the same project can feel differently about things and that caution must be taken when making generalisations concerning human capital.

7.7.5. BAMBANANI:

This UAP is located within the grounds of Sinethemba primary school and began in 2005, originally with 26 members. When the project first began people were told by a Ward Councillor that they would get a stipend payment for working in the garden. The payments did not happen and so many of the original members left. Today there are only 6 members remaining, 1 man and 5 women. I interviewed four women Bambanini members, aged in their late 40's to early 50's. The interview was conducted at the 'Business Place' on 26/06/08 at the same time as they were working on up-dating the sustainability index for their project. I also visited the site in April and June. My first visit was with Dora who is an Abalimi field worker and a member of this UAP.

On each occasion that I visited this site it appeared tidy and organized. There was a large amount of manure on site and they were making their own compost, however there was only one drum of liquid manure and the field workers advised that they need more. They are producing some of their own seedlings, although they explained that some had died because they used too much mulch. They currently use a hose pipe to irrigate the

crops but this will soon be upgraded to a sprinkler irrigation system. There is not sufficiently secure fencing around their project area and although the school has a perimeter fence it has not prevented theft. Security was an issue, during my first visit in May a significant number of vegetables had been stolen the day before they were due to be harvested for HoH.

FIGURE 17: MEMBERS OF BAMBANINI UAP:



Kirkland 08/04/2008

The garden size has not changed as a result of HoH and the area under actual cultivation has not altered in size, however, they state that they are growing more and recognize that this is directly related to efficient planting encouraged by HoH. They are not wasting as much space and are sowing seeds and seedlings correctly. Before HoH they planted with larger spaces between the seedlings, since HoH they have increased the density.

FIGURE 18: VEGETABLE PLOTS AT BAMBANINI UAP:



Kirkland 08/04/2008.

Production has increased and they are also growing more varieties of vegetables than before. The local Nyanga people prefer cabbage, turnip and spinach but not Kohl Rabi (a fast growing vegetable which can be described as a cross between a baby cabbage and a turnip) which is only grown for HoH. They are personally eating a wider variety of vegetables now although they are unsure of how to cook some varieties, for example aubergines. They remarked that if they had a container (accommodation) they would experiment with cooking. They are also growing vegetable types that have a longer harvesting period such as spinach, peppers and tomatoes.

After the crops are harvested, the plot is quickly prepared and planted again. Before HoH they had days when they did not go to the garden but now they do not have a rest period. They maintain that HoH has encouraged them to go into the garden because they

feel that they are working towards something. They know about mixed intercropping but do not practice it yet. Before Hoh they did not have a specific way for making and preparing and planting their plots but now they do. They said that they have only recently had proper knowledge to plant since being involved with Abalimi in 2007. The group appeared to have a good idea about what plants go together and what do not. As a result of producing more they are using more inputs like manure and rapid raiser (organic fertilizer). They have not yet used their own compost as it is still in the making but if they could use their own they estimate it would cover 4 plots.

When I measure the garden on 2/07/08 I found that the total plot area contracted to HoH is 442.64 sqm. The total area for non contracted plots was 314.03sqm (not including 15.2sqm seedlings). Thus plots contracted to HoH take up 58.5% of the garden and the non contracted plots are 41.5%. Over the next three years they would like to increase the amount that they produce for HoH. The only limiting factor envisaged is the site size because an area where they could have expanded into has recently been built on by the school. They plant more than HoH requires so there is a surplus which is sometimes sold to teachers at the school, the community or is for their own consumption. They also give some away to the very poor. There has been little left over this winter season and the waste has been reduced. Although HoH also takes vegetables from non contracted plots they said that they still have enough to sell locally. HoH pays the best in terms of per unit and total volume; it is the biggest income earner. Unlike SCAGA 1, they sell to the community for less money per item than they receive from HoH, at what they consider to be affordable prices because they said, *"We don't want to scare the community to run away."* Sometimes they give surplus vegetables to a clinic and some spinach to a few of the poorer school children, although at the moment there is not much to give.

The Bambanini UAP does not have a leader although they have a committee structure with a chair person, a scribe, treasurer and so forth. The committee rotates annually in order that everyone will have a turn in the various roles. They work as a group at all times and decisions are made as a group. They report to one another and if one member has a problem such as clinic dates that person informs the others, they said that, *"No one*

slacks.” They have meetings and take down minutes although one member stated in the interview that they had not had a proper meeting since December. The chair person writes down what vegetables have been sold, the costs and the expenses. She passes this on to the scribe who writes the information into the record book. The money in the book corresponds with the money in the bank. They also keep a note on what has been harvested for HoH. All of the members have completed agriculture basic training and some have done the agri-planner course with Abalimi which they felt was important for participating in HoH. Since HoH they have had more contact with Abalimi.

None of the members interviewed had another source of income except for the child support grant (220 rand per child per month). Three of the ladies are the heads of their households and the assumption can be made that they are unmarried or not living with a male partner. The others are married and therefore do not consider themselves as the head of the household. The male group member is the head of his household. All of the members interviewed have a lot of family living with them. All the money earned from the UAP goes to a joint bank account and they have decided to only access the money in January 2009 because they want a decent amount for each member. They said that this will be used to pay their children’s school fees and other living expenses. One lady said that she did not want to wait but would rather split the money now as she has “...too many problems.”

The group said that they had not encountered any problems or difficulties resulting from HoH and could not suggest any changes to the way the scheme operates. They are happy with HoH and think that it has only affected them in a positive way. They maintained that they enjoy gardening although they first started because they were told that they would be paid. At first they did not enjoy the work but then realized that they do not have other means of income and so they began to enjoy it. They commented that they need money for rent and electricity but that the council does not give them anything. They think that this is because the council says that they have been given a garden and therefore does not want to give them more. They claimed that HoH has “added value” because they know that the vegetables are sold but they are not yet sure if they will be

happy with the amount that they have made. That will depend on how much is to be shared at the end of the year, they said, ‘...we will wait and see.’”

7.8. AFFECTS ON THE CAPITAL ASSETS OF THE UAPs:

There are many physical and natural capital assets that are not directly affected by HoH but are nevertheless part of the UAP assets and required for cultivation, such as having a water source, adequate tools, or fencing around the site. The tables below show only those assets which have changed as a result of HoH.

Natural and physical capital assets have been affected by HoH. Although none of the UAPs have expanded their site area they have increased production as a direct result of HoH. They are using more manure, water and organic fertiliser to improve the soil and facilitate this increase. Organic production methods improve the soil health of the UAPs and have no detrimental environmental affects. The manure is heavily subsidized by Abalimi, for example a truck load of compost/ manure (ten cubic metres) costs 2200 rand but Abalimi charge the UAPs only 600 rand. Abalimi is actively encouraging the gardens to produce their own compost and mulch as this will reduce costs to both the UAP and Abalimi. Compost and mulch production are one of the indicators used in the UAP sustainability index, along with producing their own seedlings. Abalimi would like the gardens to produce enough good quality compost for their seedlings. This is not yet happening due mainly to the availability of cheap manure. Progress is starting to be made with some groups such as Eden and Masincedane.

UAP members are not yet confident that seedlings produced in the ground are as good as those from trays (which are more expensive). Small believes that this is because they have used manure rather than good quality compost to produce seedlings with unfavourable results. He would like at least one group to try seedling production with good compost as that would demonstrate to others that good quality seedlings can be produced on site (Small dir.com. 01/08/08). At present, because the sites use subsidized manure to aid production for HoH, there is little incentive to provide compost for

themselves. It is hoped that when the groups see the input cost (even subsidized) and the affect that this has on their income, they will be motivated to become more sustainable. The HoH scheme should reinforce this concept as input costs and income earned are made more explicit. HoH in itself does not directly increase sustainability in this area but as part of Abalimi over all work with the UAPs it is a tool to drive and encourage self reliance.

FIGURE 19: HOH AFFECT ON THE NATURAL CAPITAL ASSETS OF SELECT UAP'S.

NATURAL CAPITAL	5 SELECTED UAP SUPPLIERS TO HARVEST OF HOPE: JUNE 2008				
	Masincedane (Fezeka)	Bambanini (Nyanga)	SCAGA 1	SCAGA 2 (Eden)	Sakhe
Has the garden area been extended due to HoH?	NO	NO	NO	NOT YET (soon)	NO
Do they make their own compost?	SOME	SOME	SOME	SOME	SOME
Has the planted area been extended?	NO	NO	NO	NO	NO
Are more vegetables produced?	YES	YES	YES	YES	YES
Are more seedlings produced?	YES	YES	YES	YES	NO

The increase in production is directly related to the fact that more is being planted and more efficiently than before. Continuous planting and harvesting were cited as the biggest change in practice and growing vegetables with a longer harvesting period. The UAPs are growing a wider variety of vegetables, rotating the types of vegetables used in a plot and

growing varieties like pepper and tomato plants which have a prolonged harvesting period. This is supported by the Sustainability Index conducted in 2006 for Masincedane, SCAGA 1 and Sakhe which showed that little intercropping was done at that time. Nevertheless the all UAPs involved in HoH are not as efficient as expected. They are in fact only producing about a third of the yield that should be produced. Abalimi used Hybritech seed company figures and erred on the side of caution looking at the lowest yield ranges, but the gardens are still under producing (Bridget Impey dir. com. 05/06/08).

Harvest of hope has directly led to increased crop variety. All of the UAPs are producing vegetables that they did not grow before because of the new market with different preferences. This has affected them personally as many (not all) of the gardeners now eat a greater variety of vegetables. Gardeners commented that a few local people have also tried the new varieties that they have seen growing. In the SWOT analysis Abalimi staff suggested that an opportunity existed for improving local knowledge of different vegetable varieties through those planted for HoH (a social benefit). This can be considered positive for health reasons, by providing a more varied and balanced diet with a range of vitamins and minerals. It has the added benefit of reducing project vulnerability to pests and disease which may not affect different varieties.

Planting methods are more formalized and the gardeners are keen to plant correctly to avoid loss of income. I was initially concerned that this may reduce innovation in the gardens and discourage mixed/ companion cropping. It was a challenge at the beginning for many UAPs to plant regularly with correct spacing and they required further training and assistance. It is more difficult to estimate seeds required and production output when mixed cropping is introduced. However since Abalimi field workers and some gardeners recently attended a conference on 'Food Sovereignty' where mixed cropping techniques were discussed, they are keen to encourage it. Bridget has noted that very recently (July) groups have started to experiment with this method.

Knowledge and experience and training have a significant role to play in the adoption of new techniques. This demonstrates how human and social capital can affect physical

capital and has been encouraged by participating in HoH. The UAPs now consider it more important to attend to their plots in order to fulfil their contracts. The groups feel that they now have something to work towards because they know that their efforts in the garden will be rewarded as there is a market for the produce. This is also demonstrated by the fact that many of the gardeners say that they spend more time at their sites. Abalimi staff identified strong practical training and in the field follow up as strength related to the operation of HoH (SWOT analysis appendix 9).

FIGURE 20: HOH AFFECT ON PHYSICAL/ MANUFACTURED CAPITAL ASSETS OF SELECT UAPS.

PHYSICAL CAPTIAL	5 SELECTED UAP SUPPLIERS TO HARVEST OF HOPE : JUNE 2008				
	Masincedane (Fezeka)	Bambanini (Nvanga)	SCAGA 1	SCAGA 2 (Eden)	Sakhe
Are there more inputs?	YES	YES	YES	YES	YES
Is more manure used?	YES	YES	YES	YES	YES
Is there more continuous cropping?	YES more since HOH	YES more since HOH	YES more since HOH	YES more since HOH	YES more since HOH
Do they make more of their own compost?	YES but mainly rely on external source	YES but mainly rely on external source	YES but mainly rely on external source	YES but mainly rely on external source	YES but mainly rely on external source
Is irrigation used more since HoH?	YES Will Use more in summer	YES Will use more in summer	YES Will use more in summer	YES Will use more in summer	YES Will use more in summer
Is HoH a new market?	YES	YES	YES	YES	YES
Is there now transport for produce?	YES Abalimi provide for HoH	YES Abalimi provide for HoH	YES Abalimi provide for HoH	YES Abalimi provide for HoH	YES Abalimi provide for HoH

Abalimi have established the market infrastructure required for HoH to operate, such as transportation of the vegetables, washing facilities, sorting, packing, transporting and selling to the schools and marketing. Without this HoH would not function and at present it is not possible for the gardeners to do this themselves. Small (interview 03/07/08) would be happy if HoH became a cooperative with gardeners being more involved in the operation but realistically this will not happen in the near future.

All of the different UAP project members interviewed said that their contact with Abalimi has increased since participating in HoH and this was confirmed at the SWOT analysis exercise (see appendix 9). This results in a strengthening of social capital for the UAPs supplying HoH and is to be expected in the early stages of this new initiative. The field workers expressed some concern that other non participating projects were being neglected and this is leading to a negative impact on those projects (SWOT analysis see appendix 8). The Abalimi management team is aware of this issue and want effort to be made to redress the balance.

Human capital assets of the UAPs have improved since HoH. Members are keen to learn new skills that will help them make the most of the scheme and there appears to be greater motivation to work in the gardens. Making money is not the only reason why people join a UAP but it is certainly an incentive if regular income can be made. It is safe to say that HoH has given the UAP members a reason to work harder and smarter in the gardens. Apparently at the beginning of the initiative there were difficulties keeping people in the gardens over the Christmas period because many wanted to visit family in the Eastern Cape. The result would have been disastrous for the new seedlings with no water over the hottest time of the year. This was very early on in the development of HoH and the gardeners had not yet earned income from the scheme. The motivation to stay in the garden over the Christmas period was not strong and Abalimi had to put in considerable effort to persuade some members to stay and look after the first seedlings planted for HoH and due for harvesting in February.

All of the UAP members said that they are happy with HoH and did not feel under any stress or pressure as a result of the initiative. Human capital has been positively influenced and HoH appears to have motivated the gardeners to work as they are seeing financial reward for their efforts. Most appear keen to learn new skills and have already put into practice more advanced ways of cultivating than they were using before HoH. The gardeners interviewed and others in casual conversation said that they are happy with HoH and that it has improved their UAP. Bambanini members will reserved their level of satisfaction until they see the money at the end of the year but are never the less happy to be involved with HoH.

FIGURE 21: HOH AFFECT ON HUMAN CAPITAL OF SELECT UAP'S.

HUMAN CAPITAL	5 SELECTED UAP SUPPLIERS TO HARVEST OF HOPE: JUNE 2008				
	Masinceda ne	Bambanini (Nyanga)	SCAGA 1	SCAGA 2 EDEN	Sakhe
Further training motivated by HoH?	YES	YES	YES	YES	YES
Members attended workshops and other learning activities?	YES	YES	YES	YES	YES
Is there greater stress since HoH?	NONE	NONE	NONE	NONE	NONE
Is there more work to do?	YES	YES	YES	YES	YES
Is there more incentive to garden?	YES	YES	YES	YES	YES
Are the members happier with HoH?	YES	YES but will see at end of year	YES	YES	YES

Social capital helps to maintain and development human capital. In some gardens being a part of HoH has prompted them to have a joint savings account and operate more in a cooperative manner. However in some cases (SCAGA 1) there were tensions regarding the division of money in relation to work done, which led to the arrangement previously described. In the May 2006 Sustainability Index (see appendix 5), Sakhe UAP did not score any points for organizational aspects of their project, however they now have a joint bank account, hold meetings and make records which they attribute to HoH. An important factor to be recognized is that the social/ human impacts appear to depend on the profile of UAP members. Whilst the Sakhe UAP has improved administratively the Masincedane has not, so far, changed. Masincedane is run by older women and they are not particularly interested in learning new accounting and book keeping skills, although they have learned new farming techniques and practices.

Social capital also encompasses the new relationship between the UAPs, Abalimi and the customers. There is more contact between the UAPs supplying HoH and Abalimi. Other organizations such as the Department of Agriculture, provide assistance to the UAPs, mainly in the form of free inputs, stipend payments and training (particularly when projects are starting up) but none except Abalimi provide consistent ongoing support. There also appears to be a new socially embedded relationship between gardeners, Abalimi and customers. Customers clearly rated the fact that the scheme helped poor urban farmers as an important reason for them participating. One respondent wrote, *"We try and focus on eating locally when possible, using organic foods which is fundamental to a diet that reflects not only healthy living but social and environmental justice."* Another commented that the scheme, *"...brings two otherwise separate communities together."* (The survey results are contained in appendix 2). At the SWOT analysis Christina, Abalimi Programme Manager and a member of SCAGA 1 UAP remarked that people could buy their vegetables elsewhere but chose HoH because they wanted to help others. This made her feel a connection to a section of the Cape Town community that she would not otherwise have. However it must also be noted that other reasons were also cited as being important and that price was only considered to be unimportant in three cases. Abalimi

staff members think that HoH has increased the 'social' connections that Abalimi has, and has increased their visibility (SWOT analysis appendix 9).

One negative social impact is that plots contacted to HoH constitute more than fifty percent of some UAP site areas. This coupled with the fact that many non-contracted vegetables were also taken in June and July means that the percentage of the garden produce going to HoH was in fact much higher. This has resulted in less being available for the gardeners themselves and the local community which is contrary to the ideal of maximizing social benefits. Sahke and Masincedane clearly show this to be the case. Other gardens supplying HoH also showed this trend (see appendix 10). The temptation for gardeners to use all their land to supply HoH may increase if income increases. Project members may begin to think of plots as a lost income opportunity if not used for HoH. It will be necessary for Abalimi to put in place mechanisms which prevent HoH from taking too much if they wish to maintain wider social benefits to the community beyond that directly connected to the project members.

Part of the reason for taking non-contracted produce could be that there was little ready in June and July and so in order to meet the orders HoH also bought from non-contracted plots. The plant growth slowed down much more than was expected over the winter period and less was ready for harvesting. Consequently in the month of August the harvest is expected to be a large due to improved weather conditions and a 'backlog' of ripening. The scheme is new and there is a learning process, next year Abalimi will ensure that gardeners plant more in March and April to be ready in June and July. The natural world does not always follow the requirements of man and business. It is not only a matter of planning and management but also of learning from experience and the unexpected. For example, vegetables sown weeks apart have sometimes been ready for harvesting all at the same time. There are many factors that can influence growth such as climate, watering, weeding, type of seed planted, soil conditions and so forth, many of which vary between UAPs.

FIGURE 22: HOH AFFECTS ON SOCIAL CAPITAL OF SELECT UAPS:

SOCIAL CAPITAL	5 SELECTED UAP SUPPLIERS TO HARVEST OF HOPE: JUNE 2008				
	Masinedane (Fezeka)	Bambanini (Nyanga)	SCAGA 1	SCAGA 2 (Eden)	Sakhe
Are there communal plots?	YES	YES	YES	YES	YES
Has HoH changed the membership?	NO	NO	NO	NO	NO
Has the Administration of UAP changed?	SAME	MORE ORGANISED	DIFFERENTLY ORGANISED	SAME (new)	MORE ORGANISED
Is there now less or more contact with Abalimi?	MORE	MORE	MORE	MORE	MORE
Is there more or less available to gift since HoH?	LESS	LESS	SAME	DO NOT GIFT	LESS
Do they sell more or less vegetables to the community since HOH?	MUCH LESS	LESS	SAME	New (Sell some to community)	MUCH LESS

Financial capital has definitely been affected by HoH. All of the UAP's interviewed said that HoH was the biggest income source. The level of income from HoH will ultimately depend on the UPA members and how much they wish to produce.

FIGURE 23: HOH AFFECT ON FINANCIAL CAPITAL ASSETS OF SELECTED UAP'S.

FINANCIAL CAPITAL	5 SELECTED UAP SUPPLIERS TO HARVEST OF HOPE : JUNE 2008				
	Masinedane (Fezeka)	Bambanini	Sakhe	SCAGA 2	SCAGA 1
Has HoH resulted in an increase in income?	YES	YES	YES	YES	YES
Does the garden get most income from HoH?	YES	YES	YES	YES	YES
Has having a contract enabled access to credit for gardeners?	NO	NO	NO	NO	YES (due to individual contracts)
Is the money paid joint or individual bank accounts?	JOINT	JOINT	CO-OP	CO-OP	JOINT & INDIVIDUAL
Do they sell produce from own non contracted plots to HoH?	YES	YES	NEARLY ALL HOH	YES	YES
Has the cost of inputs increased?	YES	YES	YES	YES	YES
Total rands earned for February, March, April and May from HoH?	5,074.10	4,362.48	2,616.82	8,833.08	10832.5 Total for HOH 2,971.06 joint account 7861.44 all individuals

Some members have other sources of income such as a state pension or child support grant and may be happy to eat their own vegetables and make a modest, regular income

from the commercial (HoH) section of the garden. At this time Abalimi only supply approximately 100 boxes, therefore when the proceeds are shared between the UAP members the amount each receives will not be great. It is still early days and Abalimi are hoping to significantly increase the number of boxes.

In all of the gardens studied the income from HoH goes to the joint group account (except SCAGA 1 which goes to individual accounts as well as the joint group account). If groups buy inputs such as manure and seedlings from Abalimi, this is deducted from the amount that they earn each month from HoH. In effect some reinvestment is beginning. The UPA members have agreed that the money in the joint account will not be accessed until either the end of 2008 or the beginning of 2009. The joint account could be considered as a group savings account, however Bambanini members suggested that their degree of satisfaction will depend on the amount they receive when the account is accessed. Christina (Abalimi staff and SCAGA1 member) believes that this system may change, particularly when more money is earned. A portion of the money could be saved and the rest shared out each month. Waiting until the end of the year is a disincentive to people who do not have a pension or other source of income.

Even though the HoH initiative is relatively new, it can be seen that there have been impacts on the 5 capital assets of the UAPs. The full affects will be revealed in time but these early impacts provide useful insights. It appears that HoH is having a positive affect on the sustainability index of UAPs due to improved finances, practices and the development of new skills and knowledge.

8. CONCLUSION:

If UAPs are to develop they must have access to a secure market which provides regular income. This is difficult for poor disadvantaged people who do not have the resources or capacity to seek and secure such a market. Fragmented Small community UAPs cannot compete directly in the conventional market with larger more commercial producers. Instead they must act as a group and be organised collectively to enable then to

consistently supply an alternative market for their produce. Niche markets provide the highest returns and can be reached through an alternative food network.

Harvest of Hope is a NPO supported AFN and provides access to a market that would not be possible for individual unassisted UAPs. In effect Abalimi, through HoH, is bringing together the efforts of the individual UAPs, which combined, supply the market. UAPs can participate at varying levels, some providing more produce than others, depending on their motivation and ability. Abalimi is providing the training, advice, support and assistance that UAPs need to supply HoH. HoH is therefore creating an opportunity for projects to stabilise and develop. Without HoH and the associated support by Abalimi it is extremely unlikely that the UAPs could have accessed a similar market by themselves.

A significant level of support is required, particularly as it is the start of this initiative, not only directly related to marketing and the operation of HoH but also peripheral yet essential support to build the UAPs capacity and sustainability. The HoH initiative ties in well with Abalimi aims to further train and improve gardeners' skills, it supports the effort that Abalimi is making to improve the stability and sustainability of UAPs. It is doing this in a number of ways:

- ❖ Encourages and motivates the UAP members, thereby strengthening the human capital assets.
- ❖ Provides an incentive to further improve the natural capital of sites, for example by the application of manure and scheduled irrigation. The importance of these activities is elevated in the minds of the gardeners because they know that the crops will be sold.
- ❖ Increased UAP member's technical skills and knowledge.
- ❖ Improved farming practices.
- ❖ Improved administration and organisation of some UAPs. This will always be a difficult area and perhaps one where certain groups will need more support than others.

- ❖ Forged new links beyond the local community (the HoH customers). It should however be noted that reducing the amount of vegetables available for the local community is detracting from the wider social benefit of the some UAPs and this requires some attention.
- ❖ Improves the financial assets of the UAP and thereby contributes to the overall livelihood strategy of the farmers.
- ❖ Is facilitating both UAP development and income.
- ❖ Is to be a tool for moving UAPs onwards through the development continuum.

In addition to the direct affects on the projects, HoH has had other positive influences:

- ❖ Informed the more wealthy sectors of society about the plight of the poor and giving them an opportunity to help.
- ❖ Increased Abalimi exposure to other donors and supporters.
- ❖ Job creation in the pack shed and sprouting beans.
- ❖ Donation of surplus vegetables (after box packing) to welfare.
- ❖ Abalimi team building.
- ❖ Leading the way, developing a model for grass roots interventions in a way that builds capacity and supports sustainability.

Some areas of concern are:

- ❖ Reduction in the amount of vegetables available for own consumption, selling to the community or gifting to welfare.
- ❖ Overshadowing work with the weaker projects and the poor. Reducing some social benefits. Survival and non progressing subsistence gardens are being overlooked.
- ❖ Taking up a disproportionate amount of Abalimi time and effort.

HoH is a new initiative and Small (Interview 03/07/08) considers it to be 'action research in motion'. Ideally projects need time to stabilise at the subsistence level but HoH has rushed development along even though the gardens are not fully stable (with some weak capital assets) and at an accepted level of sustainability (yet to be defined). Abalimi

are therefore running to catch up with training and skill development. The UAPs would not be able to operate at the level they are without significant support and subsidy. Abalimi running costs are high, although this is to be expected at the start of an initiative like HoH. It will require 300 boxes to be sold before Abalimi can break even and double that to turn a reasonable profit to be reinvested.

This study shows that there is a relationship between a process such as a marketing initiative and improved UAP capital assets. If done correctly such an initiative should result in UAPs being stable, healthy and less likely to fail. HoH does not foster reliance and dependence but rather provides an incentive for the UAPs to work harder and more efficiently. This will continue provided that the groups are happy with the amount of money that they can make.

It is clear that HoH has the ability to overall strengthen the capital assets of UAPs but the extent of this depends on the group concerned. It is demonstrated in this study that although impacts can be anticipated with some certainty they are to an extent contextual because they are the result of a combination of factors which are often specific to a particular UAP. An obvious example would be the age of members or education and literacy level which affects motivation and ability to operate in a specific way. Nevertheless with strengthened capital assets it can be expected that UAPs will be more stable at the level that they are currently operating and transition to the next phase, if desired, should be easier.

Capital assets at the survival stage are not required to be as developed as those at progressive phases of UAP development. The level of sophistication to operate successfully at the survival phase is much less than that necessary at the livelihood level. At the survival level administration and accounting skills, for example, are not required but are essential to operate more commercially. This implies that a survival garden could have relatively weak capital assets (compared to more commercially developed projects) but be relatively sustainable. It can be seen that at the survival level the strength and stability of UAPs is not aligned with the degree of sustainability. As a UAP progresses, more

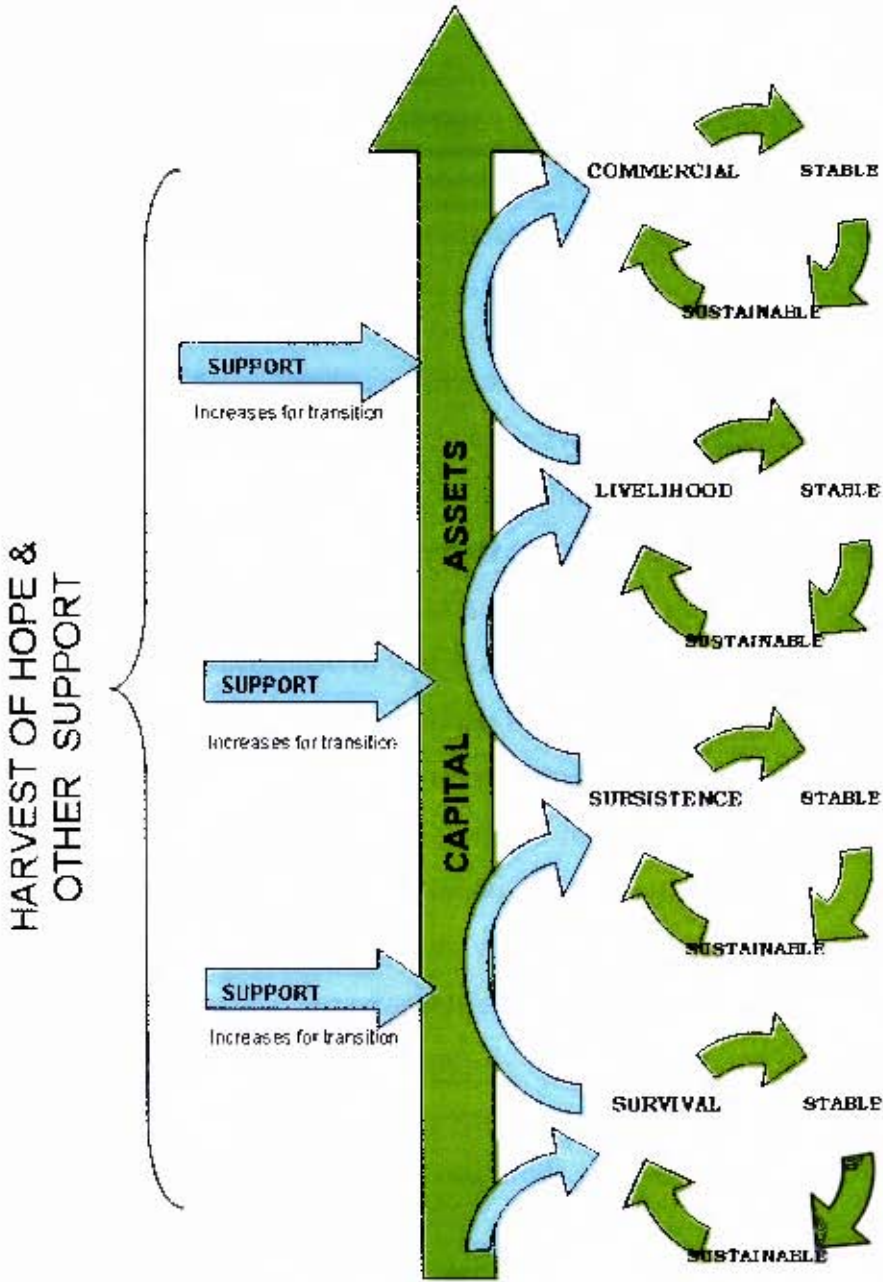
sophisticated skills and knowledge are required to operate and become stable. Provided that capital assets of a UAP are strengthened by support that builds capacity rather than creating dependence on an outside resource, the ability to be sustainable will also increase. As discussed sustainability is important to enable a UAP to be resilient and reduce vulnerability to external influences. With capacity building support and strengthening a UAP's capital assets, it would very unlikely for a project to continue to stay at survival level because most people want to improve their livelihoods.

A UAP may be stable and have strong capital assets at any level or phase because it is heavily supported by an external body but would not be considered particularly sustainable. Conversely a UAP at the survival level may have weak capital assets but be sustainable. However, this will not happen in more developed phases because of the higher level of skills needed to operate. It is not possible to be sustainable at more commercial levels and not have strong capital assets although to reiterate the above it is possible to have strong assets and operate commercially but not be sustainable. Sustainability depends more on having strong capital assets as a project progresses but strong assets do not depend on sustainability when outside support is available. Stronger capital assets should mean that a project becomes more sustainable and less vulnerable, however this is dependent how those assets are made stronger. Simply providing heavily subsidized manure or seedlings from an external source may improve the natural capital but is not more sustainable. It is the UAPs ability to either buy or produce their own compost or seedlings that improves sustainability and independence.

The development of capital assets is not uniform and some assets may be more developed than others. There are also varying degrees of sustainability and it is important to remember that all forms of commercial agriculture in the world receive some sort of assistance or subsidy. Abalimi is encouraging UAP sustainability as part of their overall work.

The below model (figure 24) is an idealised, simplified depiction of how providing a market contributes to sustainable project development.

FIGURE 24: MODEL OF SUSTAINABLE UAP DEVELOPMENT:



Adapted from Rob Small's Sustainable Development Continuum for Organic Micro Farming Projects (Small 2005).

HoH can be seen as a longer term support tool that can help UAPs move towards sustainability. The difficult question is when should agencies like Abalimi begin to reduce the level of support and subsidy to projects? This is likely to depend on the characteristics of the UAP concerned and of course Abalimi priorities and available resources. Encouraging UAPs to be more sustainable will take time, and involve the strengthening of capital assets by varying degrees and with varied types of support, depending on what level the projects are operating at and the characteristics of each UAP. Initiatives like Harvest of Hope provide a relatively flexible way of doing this.

A project does not have to be totally sustainable at one level to move on through the development continuum, particularly where support is available and this has happened to UAPs supplying HoH. By improving financial capital HoH has the potential to move projects along the continuum, which is, after all, mainly based on increased commercialisation and income earning. This means that most of the UAPs involved with HoH are now subsistence gardens in transition towards livelihood by virtue of the fact that they are able to save and reinvest with the potential for profit earning in the future. In order to get to this level of income the UAPs must improve their capital assets. Projects that are earning sufficient money can purchase their own inputs and be more self reliant and sustainable. This level of earning should not be reliant on substantial subsidy and non capacity building support. If income is support and subsidy dependent, when the time comes that support is reduced or withdrawn, the ability to earn is also adversely affected. This in turn affects income and so on in a vicious cycle of decline. Project stability and the strength of capital assets is ultimately dependant on being sustainable. If development is not sustainable then it is akin to building a house on sand, the foundation is not strong and the building is vulnerable to collapse.

Once a UAP is more sustainable support can be reduced, however more assistance will be needed if the UAP is in transition from one phase to another because new skills and knowledge are required. Different sustainability indicators are required for the different

phases. Improved stability and sustainability can be universal goals for UAPs at all stages of development in order to reduce the vulnerability to external influences and stand a greater chance of being stable at the level at which it is currently operating. However it does not automatically lead to progression along a development continuum to the commercial level. Abalimi are in fact aiming more for the livelihood phase which they believe is where the maximum social benefits reside. Not all UAPs wish to progress to a more sophisticated, commercial level. It could be argued that this is because the human capital is weak, thereby making the assumption that strong human capital will lead to striving for greater commercialism. Although this is not always the case because people have different wants and needs, it is fair to say that most people regard an increase in income as a way of improving their lives. Human capital provides both the greatest limitations and opportunities for UAPs. The wants and the needs of the target group, that is the poor urban farmers, must always be a priority as the project member's desires are as important as their ability. The benefit of a scheme like HoH is that it caters for all levels and does not necessarily mean that people are pushed in a direction that they do not want to go. By providing a market, transport, training and so forth, HoH gives encouragement and support to UAPs whether they want to develop further along the continuum or not and will be an instrumental factor that actively enables UAPs to progress if they desire to.

Implementing HoH in a way that consciously promotes capacity building and sustainability will strengthen projects because it provides the type of support that does not discourage self reliance and independence. Hopefully this will reduce project vulnerability and thus ultimately improve the sustainability of both project and the associated livelihoods involved. Project stability through strong capital assets, particularly financial (which is ultimately affected by the other capital assets) would be the ideal first steps in progressing the UAPs along the development continuum. Improved sustainability should closely follow in order to increase the chances of a UAP continuing to operate at that level. However the impacts of HoH have happened faster than anticipated and so there is a present a lag between improved financial capital and project stability and sustainability which Abalimi is rushing to catch up with.

The value of a market initiative implemented in the way described in this case study is that it could provide long term support of a type which strengthens the capital assets, stability and sustainability of UAPs. Ultimately it could lead to the creating of lasting, successful projects and make an important contribution to both member food security and livelihood strategy with additional wider social benefits. The research has demonstrated that impacts can occur very early on in the life of an initiative and identifying these can inform an initiatives development. Formative evaluation in the early stage of a project can be part of an adaptive strategy which accommodates operating within dynamic systems. It is part of an iterative process which enables feedback from participants in the evaluation and other knowledge gained to inform the development of the project.

There are many areas of possible future research related to this subject. The relationship between sustainability and UAP development could be further explored. An evaluation of HoH in 3 years time would yield more information about the impacts of the initiative on the UAPs and Abalimi. A comparison of the development of non HoH and HoH UAPs would also give interesting insights on the extent of the initiatives influence.

REFERENCES

Abalimi Bezekhaya. 2005. *Urban Agriculture Sustainability Index Mini Workshop*. Notes. Unpublished.

Abalimi Bezekhaya. 2006. *Sustainability Index Survey Results for UA Report 05/2006*. Unpublished.

Abalimi Bezekhaya. 2007a. *Subsistence Gardens Stabilisation Project 21/08/2008*. Unpublished.

Abalimi Bezekhaya. 2007b. *Untitled 15/11/2007*. Harvest of Hope Document. Unpublished

Abalimi Bezekhaya. 2008. *Overview Document 03/2008*. Unpublished.

- Agrawal, M. et al. 2003. Effect of Air Pollution on Peri-Urban Agriculture: A Case Study. *Environmental Pollution* 126: (3) 323- 239. Available from: <http://www.Sciencedirect.com> (Accessed 05/05/08).
- Armar-Klemesu. 2000. Urban Agriculture and Food Security, Nutrition and Health. *Growing Cities Growing Food*. Zentralstelle Fur Ernährung and Landwirtschaft (ZEL): Feldafing. Available from: <http://www.ruaf.org/node/58> (Accessed 09/05/2008).
- Baumgartner, B. and Belevi, H. 2001. *A Systematic Overview of Urban Agriculture in Developing Countries*. EAWAG- Swiss Federal Institute for Environmental Science and Technology (EAWAG) and the Department of Water and Sanitation in Developing Countries (SANDEC) Available from: http://www.eawag.ch/organisation/abteilungen/sandec/publikationen/publications_wra/downloads_wra/syst_overv_on_ua_in_dc_report_san.pdf (Accessed 05/05/08).
- Beaumont, J. 1990. *Urban Agriculture, a Study in Town 2, Khayelitsha*. Unpublished Honours Thesis, University of Cape Town.
- Bellows, A.C. 1999a. The Praxis and Production of Food Security: Urban Agriculture in Silesia. Unpublished PhD dissertation (in preparation). Rutgers University. Cited in Bellows, A.C. 1999. Urban Food, Health and the Environment: The Case of Upper Silesia, Poland. In Mustafa, K. et al (Eds). 1999. *For Hunger Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre, 131-135.
- Bellows, A.C. 1999b. Urban Food, Health and the Environment: The Case of Upper Silesia, Poland. In Mustafa, K. MacRae, R. Mougeot, L.J.A. and Welsh, J. (Eds) 1999. *For Hunger Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre, 131-135

- Boyle, B. 2008. South Africa must grow on all arable land, says Manuel. *The Times (South Africa)* 13/05/2008. Available from:
<http://www.thetimes.co.za/PrintArticle.aspx?ID=747211> (Accessed 07/05/2008).
- Boyle, B. Shevel, A. Robertson, D. and Klein, M. 2008. World Food Riots Spread. *The Times (South Africa)* 16/04/2008. Available from:
<http://www.thetimes.co.za/PrintArticle.aspx?ID=746905> (Accessed 07/05/2008).
- Brown, A.W. Harris, P.J.C. Hofny-Collins, A.H. Pasiecznik, N. and Wallace, R.R. 2000. Organic production and Ethical Trade: Definition, Practice and Links. *Food Policy*, 25: (1) 69-89. Available from: <http://www.sciencedirect.com> (Accessed 13/06/08).
- Bryld, E. 2003. Potentials, Problems and Policy Implications for Urban Agriculture in Developing Countries. *Agriculture and Human Values*, 20: 79-86.
- Byron, E. Gillespie, S. Nangami, M. 2006. *Integrating Nutritional Security with Treatment of People Living with HIV: Lessons Learned in Kenya*. IFPRI. Available from
<http://www.ifpri.org/renewal/pdf/KenyaAMPATH.pdf> (Accessed on 08/08/08).
- Castleman, T. Seumo-Fosso, E and Cigill, B. (2004). *Food and Nutrition Implications of Antiretroviral Therapy in Resource Limited Settings*. FANTA Technical Note no. 7. Washington D.C: Academy for Education Development. Available from:
http://www.fantaproject.org/downloads.pdfs/tn7_ARVs.pdf (Accessed on 08/08/08).
- Campilan, D. Dreschel, P. and Jocker, D. 2001. Monitoring and Evaluation: It's Adaption to Urban and Peri-Urban Agriculture. *Urban Agriculture*, 5: 40-42. Available from:
<http://www.ruaf.org/no.5/40camp.pdf> (Accessed 13/06/08).
- Chambers, R. and Conway, G. 1992. *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*. IDS Discussion Paper 296. Brighton: IDS. Cited in Department for International Development (UK). 1999. *Sustainable Livelihood Guidance Sheets*. DFID.

Available from: http://www.livelihoods.org/guidelines_sheets.html (Accessed 23/05/08)

- Chittenden Nicks Partnership. 1997. *The future of Philippi Horticultural Area*. Cape Town SA p36. Cited in Fermont, A. et al. 1998. *Urban Vegetable Production in Khayelitsha. A case study of management options to improve the feasibility of vegetable gardening in deprived communities of the Cape Flats, South Africa, with an emphasis on Agroforestry*. Occasional publication series No. 1: University of the Western Cape.
- City of Cape Town, Economic Human Development Department. 2007. *Urban Agricultural Policy for the City of Cape Town*. Cape Town: The City of Cape Town.
- Cilliers, P. 2001. Boundaries, Hierarchies and networks in Complex Systems. *International Journal of Innovation Management*, 5: (2) 135-147.
- Department for International Development (DFID) (UK). 1999. *Sustainable Livelihood Guidance Sheets*. DFID. Available from: http://www.livelihoods.org/guidelines_sheets.html (Accessed 23/05/08)
- Drescher, A.W. 1999. Urban Agriculture in the Seasonal Tropics: The Case of Lusaka, Zambia. In Mustafa et al (Eds). *For Hunger- Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre, 67- 76
- Egziabher, A.G. 1994. Urban Farming, Cooperatives and the Urban Poor in Addis Ababa. In Egziabher, A.G. et al 1994. *Cities Feeding People: An Examination of Urban Agriculture in East Africa*. Ottawa: International Development Research Centre, 85-104,
- Fermont, A. et al. 1998. *Urban Vegetable Production in Khayelitsha. A case study of management options to improve the feasibility of vegetable gardening in deprived communities of the Cape Flats, South Africa, with an emphasis on Agroforestry*. Occasional publication series No 1: University of the Western Cape.

- Foeken, D. 2006. *To Subsidise My Income: Urban Farming in an East African Town*. Leiden: Brill
- Frayne, B. 2007. Migration and the Changing Social Economy of Windhoek, Namibia. *Development Southern Africa*, 24: (1) 91-108.
- Gonzales, N. Salvo, M. and Prain, G. 2007. Innovation in Producer Market Linkages: Urban field schools and organic markets in Lima. *Urban Agriculture Magazine*. 19: 46-48.
Available from: <http://www.ruaf.org/node/1676> (Accessed 13/6/08).
- Goodman, D. and Redcliff, M. 1991. *Refashioning Nature: Food Ecology and Culture*. London: Routledge. Cited in Hinrichs, C. 2000. Embeddedness and Local Food Systems: Notes on two types of direct agricultural market. *Journal of Rural Studies*, 16: 295-303.
- Hofstee, E. 2006. *Constructing a Good Dissertation: A Practical Guide to Finishing a Masters, MBA or PHD on Schedule*. SA: EPE
- Hinrichs, C. and Kremer, K.S. 1998. The Challenge of Class for Community Supported Agriculture: Insights from Iowa. Paper Presented at the Annual Meeting of Agriculture, Food and Human Values Society. June 4-7 1998, San Francisco. Cited in Hinrichs, C. 2000. Embeddedness and Local food systems: notes on two types of direct agricultural market. *Journal of Rural Studies*, 16: 295-303.
- Hinrichs, C. 2000. Embeddedness and Local Food Systems: Notes on two types of direct agricultural market. *Journal of Rural Studies*, 16: 295-303.
- International Fund for Agricultural Development (IFAD). 2008. *Methods for Monitoring and Evaluation: A guide for Project Monitoring and Evaluation*. IFAD. Annex D. Available from http://www/ifad.org/evaluation/guide/annex_D-3DEF.pdf (Accessed 04/06/08).

- Jamel, V. and Weeks, J. 1993. *Africa Misunderstood*. London: Macmillan. Cited in Maxwell D. 1995. Alternative Food Security Strategy: A Household Analysis of Urban Agriculture in Kampala. *World Development*, 23: (10) 1669-1681.
- Jarosz, L. 2008. The City in the Country: Growing alternative food networks in metropolitan areas. *Journal of Rural studies*, 24: 231-244.
- Just Think. 2008. *Harvest of Hope Development Proposal 2008*. Unpublished.
- Keraita, B. Drechsel, P. and Amoah, P. 2003. Influence of Urban Wastewater on Stream water Quality and Agriculture In and Around Kumasi, Ghana. *Environmental and Urbanisation*, 15: (2) 171. Available from: <http://eau.sagepub.com.ezproxy.uct.za/cgi/reprint/15/2/171> (Accessed 12/06/08).
- Kruijssen, F. Keizer, M. and Giuliana, A. 2006. Collective Action for Small Scale Producers of Agricultural Biodiversity Products. Paper presented at the *Research Workshop on Collective action and Market Access for Smallholders Oct 2-5, 2006*. Colombia: Cali. Available from: <http://www.capri.cigar.org/pdf/capriwp71.pdf> (Accessed 30/05/08).
- MapStudio. 2005. *Street Guide: Cape Town and Peninsula*. 13th Edition. Cape Town: MapStudio.
- Maxwell, D. and Zziwa, S. 1992. *Urban Farming in Africa - the case of Kampala, Uganda*. Nairobi: ACTS.
- Maxwell, D. 1995. Alternative Food Security Strategy: A Household Analysis of Urban Agriculture in Kampala. *World Development*, 23: (10) 1669–1681. Available from: <http://www.sciencedirect.com> (Accessed 3/04/08)
- May, J. and Rogerson, C.M. 1995. Poverty and Sustainable Cities in South Africa: The Role of Urban Cultivation. *Habitat International*, 19: (2) 165-181. Available from <http://www.sciencedirect.com> (Accessed 06/08/08).

- Meares, A. 1999. People at the Centre of Livestock Projects. In Mustafa, et al (Eds). *For Hunger- Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre, 90- 94.
- Mkwambisi, D. Fraser, E. and Dougill, A. 2007. *Urban agriculture and Poverty Reduction: Evaluating how food production in cities contributes to livelihood entitlements in Malawi*. Leeds: University of Leeds Sustainability Research Institute. Available from: http://www.see.leeds.ac.uk/research/sri/working_papers/SRIPs-04.pdf (Accessed 12/06/08).
- Mollison, B. 1990. *Permaculture. Practical Guide*. Washington, D.C: Island Press.
- Moskow, A. 1999. The Contribution of Urban Agriculture to Gardeners, their Households and Surrounding Communities: The Case of Havana, Cuba. In Mustafa, et al (Eds). *For Hunger Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre, 77- 83.
- Mougeot, L.J.A. 1994a. African City Farming from a World Perspective. In Egziabher. A.G. et al. *Cities Feeding People*. Ottawa: International Development Research Centre. 1- 25.
- Mougeot, L.J.A. 1994b. Leading Urban Agriculture into the 21st Century: Renewed Institutional Interest. In Egziabher. A.G. et al. *Cities Feeding People*. Ottawa: International Development Research Centre. 105-115.
- Mougeot, L.J.A. 1999. For Self Reliant Cities: Urban Food Production in a Globalizing South. In Mustafa, k. et al. (Eds). 1999. *For Hunger Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre.
- Mustafa, K. MacRae, R. Mougeot, L.J.A. and Welsh, J. 1999. Introduction: Food Security Is a Global Concern. In Mustafa, K. et al. (Eds). 1999. *For Hunger Proof Cities. Sustainable Urban Food Systems*. Ottawa: International Development Research Centre.

- Moustier, P. and Danso, G. 2006. Local Economic Development and Marketing of Urban Produced Food. In Van Veenhuizen, R. (Ed) 2006. *Cities Farming for the Future. Urban Agriculture for Green Productive Cities*. Philippines: International Institute of Rural Reconstruction (IIRR), RUAF and IDRC, 173 – 208.
- Ndegwa, D., Horner, D., Esau, F. 2007. The Links between Migration, Poverty and Health: Evidence from Khayelitsha and Mitchells Plain. *Social Indicators Research*. 81: 223-234. Available From:
<http://www.springerlink.com.ezproxy.uct.ac.za/content/9073v68776w8w804/fulltext.pdf> (Accessed 17/07/08).
- Nugent, R. 2000. Urban and Peri-urban Agriculture, Household Food Security and Nutrition. In the *Electronic Conference on Urban and Peri-urban Agriculture on the Policy Agenda, 21 August-30 September*. FAO- ETC/RUAF. Available from:
<http://www.fao.org/urbanag/Paper1-e.htm> (Accessed 09/05/2008).
- Owuor, S.O. 2006. *Bridging the Urban–Rural divide: Multi-Spatial Livelihoods in Nakuru Town, Kenya*. Leiden: African Studies Centre. Available from:
www.openaccess.leidenuniv.nl/dspace/bitstream/1887/4637/1/ASC_1236144_148.pdf (Accessed on 05/08/08).
- Parnell, S. 2004. Constructing a Developmental Nation – the Challenge of Including the Poor in the Post Apartheid City. In *Overcoming Underdevelopment in South Africa's Second Economy*. 28-29 October. Midrand: Development Bank of South Africa. Available from:
<http://www.sarpn.org.za/documents/d00009997/P1104/DBSA%20 Parnell Oct2004.pdf> (Accessed 08/08/08).
- Potts, D. 1995. Shall We Go Home? Increasing Urban Poverty in African Cities and Migration Processes. *The Geographical Journal*, 161: 245. Available from:
<http://find.galegroup.com> (accessed 08/08/08).

- Sandler, L. 1994. *The Potential for Small Scale Urban and Peri-Urban Vegetable Production in Cape Town Metropolitan Area*. Honour's thesis, University of Cape Town.
- Sawio, C.J. 1994. Who Are the Farmers of Dar es Salaam? In Egziabher, A.G. et al 1994. *Cities Feeding People: An Examination of Urban Agriculture in East Africa*. Ottawa: International Development Research Centre, 25- 46.
- Sen, A.K. 1981. *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Clarendon Press.
- SIGMA. 2008. *The SIGMA Project*. SIGMA. Available from: <http://projectsigma.co.uk/Guidelines/Principles/Capitals/The5Capitals.asp> (Accessed 29/07/08).
- Small, R. 2005. Can Community Based Organic Micro Farming Create Food Security? *The CSI Handbook 8th edition*. South Africa: Dialogue Publication, 266-269.
- Small, R. 2006a. The Siyazama Community Allotment Garden Association, Cape Town South Africa. A Case Study in Smith, J. and Bailkey, M. 2006. *Building Communities*. In Van Veenhuizen, R. (Ed) 2006. *Cities Farming for the Future. Urban Agriculture for Green Productive Cities*. Philippines: International Institute of Rural Reconstruction (IIRR), RUAF and IDRC, 160- 163.
- Small, R. 2006b. *Abalimi Case*: Unpublished.
- Small, R. 2008. *Typology*. Unpublished.
- South Africa Department of Agriculture. 1994. *Draft White Paper on Agriculture*. Pretoria: Government Printer.
- Stanley, M. et al. 2007. Creating Marketing Opportunities for Poor Women Farmers in Kenya . *Urban Agriculture Magazine*, 17. Available from: <http://www.Ruaf.org/node/1185> (Accessed 13/06/08).

- Tibaijuka, A. 2002. Introduction: The United Nations Human Settlement Programme (UN-Habitat). *World Food Summit: Five Years Later*. Available from: <http://www.fao.org/DOCREP/005/Y4172M/rep2/UN-HABITAT.htm> (Accessed 05/05/2008)
- Tixier, P. and Bon, de, H. 2006. Urban Horticulture. In Van Veenhuizen, R. (Ed) 2006. *Cities Farming for the Future. Urban Agriculture for green Productive Cities*. Philippines: International Institute of Rural Reconstruction (IIRR), RUAF and IDRC, 315-347.
- United Nations Secretariat, Department of Economic and Social Affairs , Population Division. 2007. *World Population Prospects : The 2006 Revision and World Urbanisation Prospects: The 2007 Revision*. Available From: <http://esa.un.org/unup> (Accessed 07/05/08).
- Van Veenhuizen, R. 2006. Introduction. Cities Farming for the Future. In Van Veenhuizen R (Ed) (2006) *Cities Farming for the Future. Urban Agriculture for green Productive Cities*. Philippines: International Institute of Rural Reconstruction (IIRR), RUAF and IDRC, 1.
- Visser G.S. City of Cape Town, Department of Economic and Human Development. 2006. *Baseline Document for the Development of an Urban Agricultural Policy for the City of Cape Town*. Cape Town: The City of Cape Town.
- World Commission on Environment and Development (WCED). 1987. *Our Common Future*. Oxford: New York University Press.
- Zeeuw, de, H. 2000. Urban and Peri urban Agriculture, Health and Environment. In the *Electronic Conference on Urban and Peri-urban Agriculture on the Policy Agenda*, 21 August – 30 September. FAO,ETC and RUAF. Available from: <http://www.fao.org/urbanag/Paper1-e.htm> Accessed 09/05/2008

APPENDICES:

1. SEMI STRUCTURED INTERVIEW QUESTIONS:

The Interview Questions and how they relate to the capital assets:

1. *Name of Garden Project*
2. *Male or female. Human capital, gender considerations.*
3. *Age. Human capital may affect planning for future and production capacity.*
Does the project work cooperatively? How many members? Social capital, organisation and support.
4. *Did the garden exist before HoH? Can a comparison with pre HoH be made?*
5. *When did you join the project? Social capital, can the respondent make comparisons with pre HoH?*
6. *Have you increased the size of the garden? Was this due to HoH? Natural capital.*
7. *Has the way that you plant changed due to HoH? In what way? Natural and Physical capital.*
8. *Have your inputs into the garden increase due to HoH? Natural and physical capital*
9. *Do you now produce more out of the garden since contracting to HoH? How? Natural and Physical capital possibly relating to human, social and financial capital assets.*
10. *Are there other ways that HoH has affected the garden?*
11. *What training have you had to garden? Did you require further training for HoH?*
Human capital, capacity building.
12. *Do you spend more time in the garden since HoH? Human and social capital.*
13. *Do you feel under pressure or any stress due to HoH? Human capital.*
14. *Over the next three years would you like to increase, decrease or make no change to the amount that you contract to HoH? Physical Capital and human capital as it indicates the desire to move forward or not. Is this compatible with HoH vision? Do they wish to develop the garden further?*
15. *What factors limit your production? Natural, Physical, Human, Social, Financial capital?*
16. *Has HoH resulted in any difficulties? Natural, Physical, Human, Social, Financial capital?*

17. *Can you suggest any changes to the way the initiative operates? Another way of discovering any problems.*
18. *Has HoH made a difference to your income?* Financial capital.
19. *Are you paid individually or jointly? Do you have a bank account?* Financial and social capital
20. *Has having a contract enabled you to access credit?* Financial capital.
21. *Do you have your own plot in addition to contracted plots? What do you do with the produce from these plots? Do you eat your own vegetables? Do you sell else where? Do you give any away? Has this been affected by HoH?* Social capital.
22. *What percentage of your time do you give to your own plots compared with HoH?* Physical and human capital.
23. *What pays the best; HoH, sale at fence, other (e.g. surplus to ethical Co-op)?* Financial capital.
24. *Do you have other sources of income?* Financial capital.
25. *Are you the head of your household? How many people live with you? Does anyone else work or have an income?* Social, human and financial capital. Impact of HoH on household.
26. *Do you have more or less contact with Abalimi staff since HoH?* Social (organisational) capital.
27. *What are your main reasons for gardening? Is HoH compatible with this? Do they wish to develop further?*
28. *Is there anything else that you would like to add?*

2. CUSTOMER SURVEY:

Dear Sir / Madam

I am currently a student at UCT studying Environmental Management and for my dissertation I am researching Abalimi's relatively new marketing initiative Harvest of Hope. I would be very grateful if you would take the time to complete the few questions posed below and return the form with either your empty box or to the Abalimi staff next week (24th June) when you pick up your vegetables.

Thank you for your time,

Dawn Kirkland.

- 1) There may be a number of reasons why you have decided to join the Harvest of Hope box scheme. Please indicate on a scale of 1- 5 (1 = not important, 5 = very important) how important each of the following are to you:*

A: The vegetables are produced organically: 1 2 3 4 5

B: The scheme helps poor urban farmers: 1 2 3 4 5

C: The box is delivered to school: 1 2 3 4 5

D: The price of the vegetables: 1 2 3 4 5

E: The freshness and quality of the vegetables: 1 2 3 4 5

- 2) Are there any other reasons why you participate in this scheme?*

50 questionnaires were sent out, 30 were returned all with question 1 fully completed and 14 of those added additional comment for question 2.

FIGURE 9: HARVEST OF HOPE CUSTOMER SURVEY RESULTS: THE NUMBER OF RESPONDENTS FOR EACH RATING:

<i>Reason for Buying from Hoh</i>	<i>Rating 1- 5 (1 = not important 5= very important)</i>				
	1	2	3	4	5
<i>The vegetables are produced organically.</i>			2	8	20
<i>The scheme helps poor urban farmers.</i>				2	28
<i>The box is delivered to school.</i>	1		12	8	9
<i>The price of the vegetables.</i>		3	17	6	4
<i>The freshness and quality of the vegetables.</i>			2	7	21

Copy of comments received:

1. It feels good to help others and get healthy organic food in return – “the feel good factor”!!
2. We now eat a wider range of vegetables that I would not normally buy.
3. It is very satisfying to be able to “multi task” in this way – help the environment, support the community and be healthy!
4. My youngest child is very excited about the whole project. This gives us lots of topic that we can talk about – organic products, helping poor people etc.
5. To become less meat dominated and move towards a vegetarian diet.
6. Saves me going to Pick n Pay.
7. Vegetables are in season and local. Results in less time consuming shop at Pick n Pay.
8. Brings two otherwise separate communities together, nice to meet the producers.

9. We try and focus on eating locally when possible, using organic foods which is fundamental to a diet that reflects not only healthy living but social and environmental justice.
10. I don not like to support the big supermarkets that exploit and destroy the planet.
Try to live an easy life and in doing so teaching my children.
11. Mainly for reasons A & B.
12. No other reasons that are not already covered in question 1.
13. Generally for environmental reasons as above i.e. organic plus helping the farmers.
The two together is an unbeatable reason to use the scheme.
14. The range of vegetables could be better.
15. Variety of food. Support small scale farming.

3. SUSTAINABILITY INDICATORS:

The indicators below were developed at an Abalimi mini workshop on the Sustainability Index 02/11/2005 (Abalimi 2005).

PHYSICAL:

- ❖ Seeds.
- ❖ Seedlings.
- ❖ Composting
- ❖ Liquid Manure.
- ❖ Mulching.
- ❖ Wind breaks.
- ❖ Inner fencing
- ❖ Water Usage
- ❖ Tools
- ❖ Appearance (maintenance of the garden plots).
- ❖ Varieties of vegetables grown.
- ❖ Growing herbs for cures

- ❖ Inter-cropping.
- ❖ Companion planting.
- ❖ Production for how many months a year.
- ❖ Garden plan with measurement, plant list and spacing – kept and up-dated and planting in line with the garden plan.

ORGANISATIONAL:

- ❖ Bank Account with regular savings for e.g. running costs, maintenance or new investments.
- ❖ Group status (constitution), NPO registration.
- ❖ Group meetings and minutes.
- ❖ Records of harvests and own consumption, also of the inputs and outputs of the project.
- ❖ Establish and maintained cash book (receipts).
- ❖ Regular internal planning and evaluation meetings (action learning established).
Fund raising, proposal writing, reporting to donors, fully developed garden plan, budget control and adaption, diversification of income sources and federated and in exchange with other organisations.

SKILLS:

- ❖ Number of members being trained by Abalimi. Number who have undergone the Agri-planner training and done their own market research. Various other training courses in for example fund raising (with other service providers).

4. COMMUNITY UAP SUSTAINABILITY INDICATORS:

FIGURE 25: COMMUNITY UAP SURVIVAL PHASE SUSTAINABILITY INDICATORS:

	SURVIVAL PHASE - Pioneer
<i>Physical</i>	<ul style="list-style-type: none"> • Seeds are 100% purchased by the group. • 10% of seedlings used are grown by groups from seeds and 90% are purchased by the group (if a new group they get 50% subsidy from Abalimi). • Compost is sufficient to be applied in a meaningful way to 50% of the garden. • Drums of liquid manure are always full and there is evidence of use. • To have thick mulch for at least 6 beds. • Windbreaks established. • Inner fence erected. • Wise water usage. • Tools well maintained and functional. • Garden appears clean and cared for. • Variety of vegetables planted. • Basic herbs for cures being planted. • Intercropping is practiced throughout the garden. • Companion planting is practiced on at least one bed in the garden. • Production for at least 6 months of the year. • Plan of the garden with measurements, list of plants planted and respective spacing is kept and updated
<i>Organisational</i>	<ul style="list-style-type: none"> • Informal group formation e.g. chairs person and secretary, with a constitution in place. • Regular meetings are held and minutes of the meetings kept. • Group has a bank account and does savings against the running costs of the garden. • The following records are kept and maintained: inputs, outputs, harvests, own consumption. • Cash (receipts) book is kept and maintained
<i>Skills and Knowledge</i>	<ul style="list-style-type: none"> • All group members have undergone Abalimi basic training course.

FIGURE 26: COMMUNITY UAP SUBSISTENCE PHASE SUSTAINABILITY INDICATORS:

	SUBSISTENCE PHASE – Intermediate (all the survival indicators plus the below)
Physical	<ul style="list-style-type: none"> • Seeds are 100% purchased by the group. • Nursery provides all seedlings for the garden. • Thick layer of mulch on all beds. • Water is used wisely (not in hot times of the day) and storage tanks are in place. • Fully established wind breaks with indigenous plants. • Planting in line with fully developed garden plan. • Production for 12 months of the year.
Organisational	<ul style="list-style-type: none"> • Full NPO registration • Basic fundraising done (e.g. tools) • Fully developed garden plan taking care of own consumption of a variety of health vegetables, including herbs for major illnesses, market demand and hence staggered planting patterns and organic principles (e.g. soil fertility through legumes and pest control through intercropping and companion planting. • Bank saving done for running garden expenses and maintenance (e.g. breakdowns) • Other sources of income: crafts • Group federated with other NPOs and associations. • Regular internal planning and evaluation (Action -Learning)
Skills and Knowledge	<ul style="list-style-type: none"> • All members have undergone Agri-planner training and done their own market research.

FIGURE 27: COMMUNITY UAP LIVELIHOOD PHASE SUSTAINABILITY INDICATORS:

	LIVELIHOOD PHASE (all intermediate criteria/ indicators achieved to a high degree plus the below):
Physical	<ul style="list-style-type: none"> • Nursery producing seedlings for own garden and also for sales. • Planting in line with fully developed garden plan. • Production for 12 months of the year • Compost: continuously done and sufficient for the entire garden area and also for sales to community. • Wide variety of herbs grown and remedies and cures produced out of them. • A couple of trees provide shade during hot times. • Water is used in a wise way and in addition there are devices for rainwater harvesting.
Organisational	<ul style="list-style-type: none"> • Full NPO registration. • Fully developed garden plan taking care of own consumption of a variety of health vegetables including herbs for major illness, market demand and hence staggered planting patterns and organic principles (e.g. soil fertility through legumes and pest control through intercropping and companion planting). • Bank saving catering for running garden expenses, maintenance (e.g. breakdowns) as well as new investments for expansions. • A range of other sources of income such as crafts, chicken, catering service, soup kitchen. • Group federated with other NPOs and associations.
Skills and Knowledge	<ul style="list-style-type: none"> • Advanced action learning – analysis recorded and made available to others (all aspects of planning, monitoring and evaluation) • Group does their own fund raising, proposal writing and reporting to donors. • Budget control of income/ expenses is kept and regularly analysed and adapted. • All members have undergone Agri-planner training and done their own market research. • Group members know use of herbs for cures and remedies through training and exchange among themselves. • Various outside training courses have been attended by group members (e.g. on fundraising by RAG)

5. SUSTAINABILITY INDEX FOR SCAGA 1, MASINCEDANE, AND SAKHE.

From February to the end of April 2006 Abalimi conducted appraisals of community UAP sustainability. The results below are for three of the UAPs examined in more detail in this study, although a number of other gardens were also assessed (Abalimi 2006).

A point system was used to give a score from 1 to 10 of how the UAP rated for each of the SI indicators. It was agreed that from the onset the first assessment would cover survival gardens and if any group achieved 100% a further assessment would be conducted for subsistence gardens (Abalimi 2006).

See charts below depict the scores for each SI indicator.

- ❖ Centre circle = 0 points.
- ❖ Outer circle = 10 points.
- ❖ Green = Physical indicators.
- ❖ Pink = Organisational indicators.
- ❖ Orange = Skills and Knowledge indicators.

FIGURE 28: 2006 SI RESULTS FOR MASINCEDANE (FEZEKA).

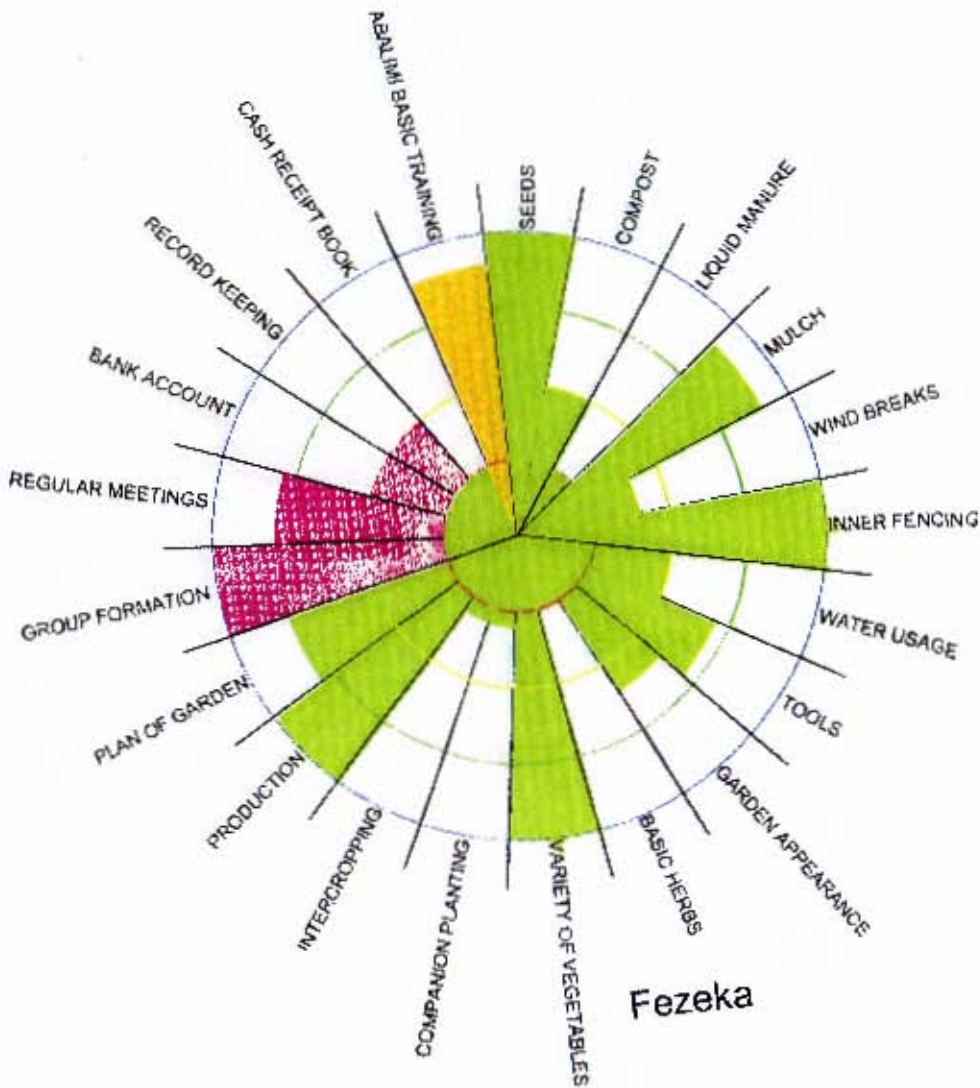


FIGURE 29: 2006 SI RESULTS FOR SCAGAL:

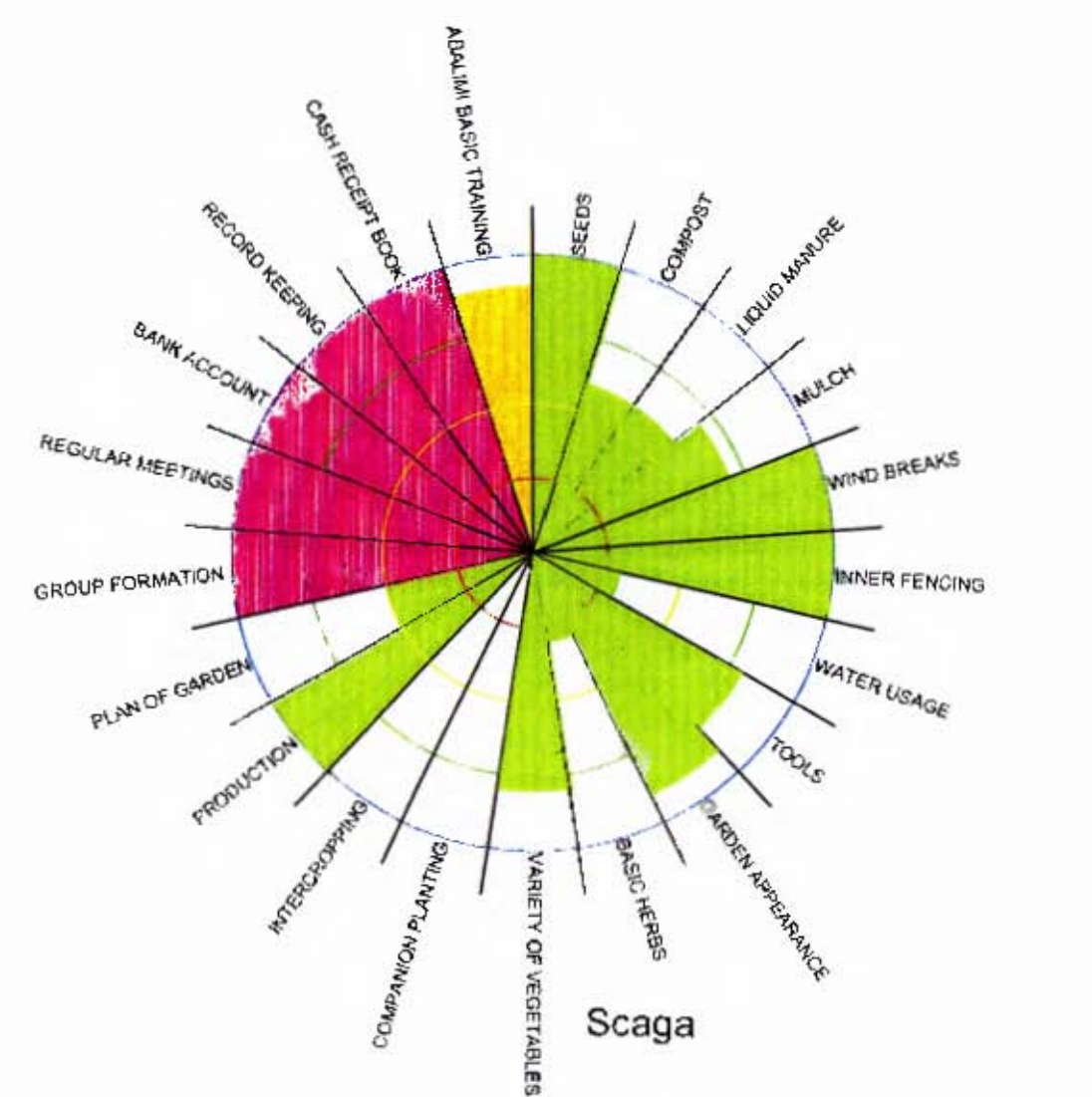
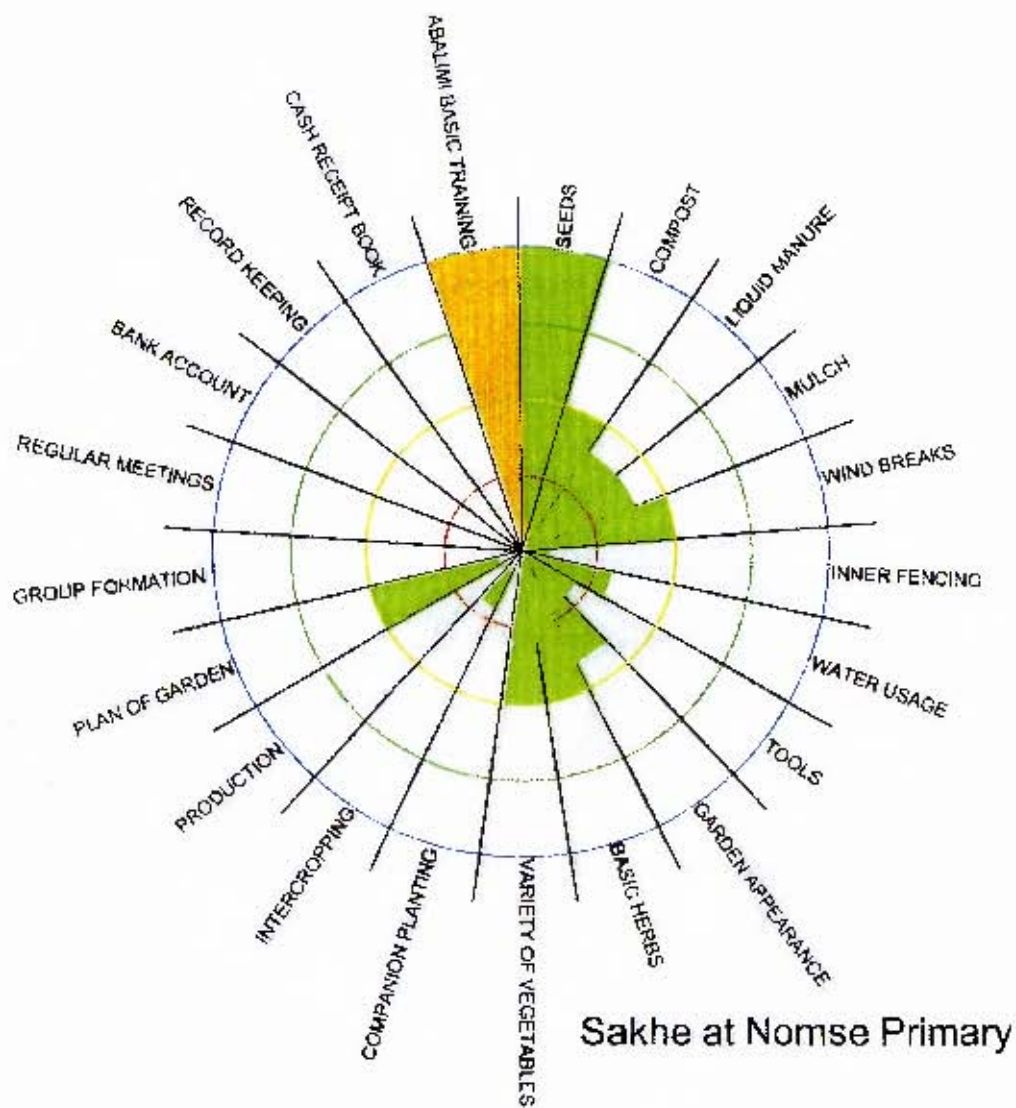


FIGURE 30: 2006 SI RESULTS FOR SAKHE:



The following circumstances need to be taken into account:

- ❖ It had been an exceptionally dry and windy summer and many UAPs had problems with their water.

- ❖ Abalimi stopped supplying free seedlings to the UAPs which resulted in many gardens having little growing in them.
- ❖ Many criteria used where not being done. The groups had the knowledge but not the will.
- ❖ Compost is available from Abalimi, the Department of Agriculture or Social Services therefore the groups do not feel the need to make their own.
- ❖ For many groups the organisational skills indicated are difficult, especially when literacy rates are low.
- ❖ Some UAPs see record keeping as unnecessary and resent the fact that they are being asked to do it.
- ❖ Many people had not completed the Abalimi basic training course.

(Abalimi 2006).

The conclusions reached where as follows:

- ❖ Scores in the physical category can be easily increased as the groups are aware of their weaknesses and areas of strength.
- ❖ A garden plan and subsequent planning was considered to be a fairly advanced concept and should go under organisational skills.
- ❖ Organisational indicators were seen as an advanced category and there was discussion about whether this was too complex for the survival phase.
- ❖ Organisational criteria requires specialist training possibly from an outside agency. Agri-planner training would help some UAPs.
- ❖ Field workers felt that there were areas where they needed more training e.g. intercropping, companion plants and herbs.
- ❖ Field workers were trying to get all UAP members through basic training.
- ❖ No group achieved 100% at the survival level although they noted that SCAGA and Masincedane (Guguletu) achieved many of the criteria required at subsistence level.

6. BAMBANANI SUSTAINABILITY EVALUATION 2008

Bambanini Nyanga: Sustainability Indicators Workshop 26/06/08. Persons present: 5 gardeners (Bambanini), Weziwe, Liziwe, Fatizwa (Abalimi), Dawn (researcher) and Wendy (translator). As I attended the workshop I was able to supplement the comments when using Abalimi notes.

Introduction by Liziwe:

- ❖ What the questions were about.
- ❖ Abalimi wish to move forward and do not want anyone left behind.
- ❖ The things that they have been taught at Nyanga must be put into practice. It is useless knowing something if it can not be done.
- ❖ Explanation of the rating procedure; how to do it, what to write in the comment box and how to rate themselves.

Initial Discussion Before Ranking Began:

- ❖ The group discussed their ranking, they didn't understand what they needed to do. Weziwe explained and elaborated a little more.
- ❖ Explained what mulch is.
- ❖ They don't have wind breaks because they are installing irrigation and they may alter their site design but they know about them and will try.
- ❖ They understand that vegetables are good for health and that people need to eat healthier.
- ❖ The school is building on part of the site and reduced their garden area.
- ❖ Discussed what two plants are good to intercrop.
- ❖ Discussed SCAGA garden and fact that they have a joint account for HoH but also individual accounts for HoH.

- ❖ Child grant supports the women gardeners, they have no other income (although Dora does and the older man who is a member wasn't at this meeting). They have no other formal income. One says she just wants to split the money (not wait) as she has too many problems.
- ❖ They discussed how they should keep a record of things e.g. how many trays of seedlings have come in, the date etc.
- ❖ They give spinach to the very poor children at the school. Fatiswa advised them to give to the kids directly and not the teacher, to ensure that they get it.
- ❖ They do not have their own specific plots. When HoH comes they plant more than HoH requires therefore there is surplus which is sold to the teachers, the community, or they eat it.

FIGURE 31: BAMBANINI SUSTAINABILITY INDEX 2008:

BAMBANINI PROJECT: Sustainability Index: Date- 4/07/08			
INDICATORS	RANK		COMMENTS
	UAP	AB	
1. Seedlings grown from seed	6	8	One lady in the group thought that they should get 10 because they have done well with seeds but in the end they agreed 6. They say that HoH brings vegetables that they don't know how to plant and look after although they like planting them.
2. Enough compost made for seedling production.	5	5	The compost was moved. They use the compost for seedlings production. When planting in the plots they use delivered compost/manure. They still haven't used their own compost, it is still in the making. They have only recently had proper knowledge to plant since being involved with Abalimi 2007. If they could use their own compost they estimate it would cover 4 plots.
3. Drums of liquid manure full and used.		5	They only have one drum of manure which is being used. They need another drum, 1 is not enough for the garden. When compost is late they use the manure so that is why they haven't got enough. In winter they do not use much because if it rains the next day it gets washed away.
4. Thick mulch for	4	2	They have been requesting it for a while but nothing is happening. They lose marks for sustainability but they say it isn't their fault. One group member thinks that they should rank 7 not 4. They need more

at least 3 beds.			training on the different ways of getting mulch. They say that they have however been working on it, half of the spinach and cabbage plots are mulched.
5. Windbreaks established and maintained.	0	0	No wind breaks, they have only just started but they know the importance of them. They can see in other gardens as well. They are thinking of redesigning their garden. Not properly fenced.
6. Garden watered at sensible time of day.	8	5	Watering from 8 to 9am in morning and at 5 or 6pm. Need to use less water because the school says that they are wasting water. They are not allowing a proper usage of water. If had own water they would use in the evening as it allows time for sufficient absorption. In the morning the sun is too hot. Understand how way use water affects plants. Want to learn more re use of water. They know how to water.
7. Tools well maintained and functional.	6		Were given tools, 3 rakes, wheel barrows etc. They clean tools well by washing after use & store them at their homes because haven't a container on site. No one wants dirty tools taken home.
8. Garden appearance, clean and cared for.	10	9	Garden appears very clean and tidy. They're a bit concerned re. Straightness of some of their plots.
9. Basic medicinal herbs planted.	1	0	Have 1 Marigold. Want to learn about herbs & how to plant. Need to know where to buy & how long herbs last & what they are used for and what do they cure etc.
10. Variety of vegetables planted, including healthier ones.	10		They're eating a greater variety of veg. They enjoy eating the surplus. Sometimes uncertain how to cook it therefore don't eat it. Need to know how each veggie helps health.
11. Intercropping and companion planting.	3	0	They know about intercropping but don't do it. Were told about it. Have an idea what plants are good together e.g. potatoes and beetroot don't go together because of the roots. Spinach and turnip good together. Pumpkin not good with anything.
12. At least 2 crop combinations.	0		Haven't practiced with two crop combinations.
13. Production for at least 6 mths of the year.	9	9	Continuous planting/ production. Haven't rested. One gardener said that was a lot to harvest before winter.

14. Group working collectively daily.	9	5	Always work as a group. Report to each other. If there's a problem e.g. clinic dates, they inform others. No one slacks. Before HoH they had days when didn't go to the garden. HoH encourages them to go to the garden as they feel they are working towards something.
15. Is a plan of the garden	8		Discuss what they're going to do in garden & make plan but don't write down. Don't know how to do it and scribe is sick. One member said she could do the writing but wasn't aware that she had to.
16. Group formation, they meet regularly.		3	Have a committee. Scribe is ill, someone needs to take her place. Have meetings & take down minutes. Last meeting May but can't find minutes. Committee rotates annually - everyone gets turn. One lady states haven't had decent meeting since December. Need a container to meet in as own homes too small. It's possible to have meeting in garden on sunny days.
17. Regular meetings with a reliable contact in the group.	6		
18. Bank accounts with stable project savings linked to marketing.		1	Joint group bank account where all money from garden goes.
19. Record of money inputs/ outputs and harvest and consumption.	0	0	
20. Abalimi membership.	10		Have Abalimi membership, filled out forms.
21. Abalimi basic training course.	10	10	All had the basic training course.
22. Sell surplus produce.	10	5	Sell a lot of surplus to community but more goes to HoH.

7. EDEN SUSTAINABILITY EVALUATION 2008:

I did not attend the evaluation and so only Abalimi notes are used.

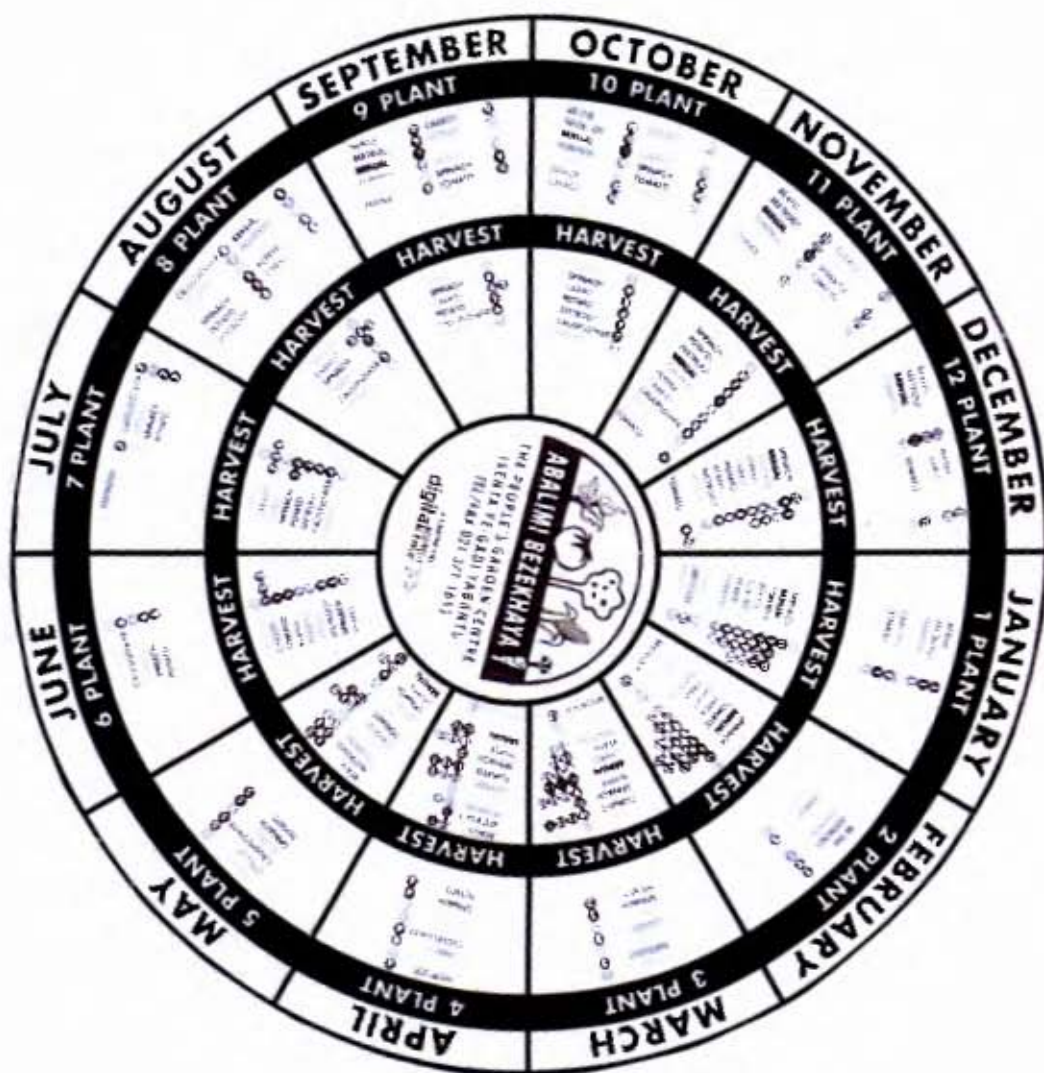
FIGURE 32: EDEN SUSTAINABILITY INDEX 2008:

EDEN PROJECT: Sustainability Index: Date- 4/07/08			
INDICATORS	RANK		COMMENTS
	U AP	A B	
23. Seedlings grown from seed	9	9	
24. Enough compost made for seedling production.	7	6	
25. Drums of liquid manure full and used.	5	0	Are using rapid raiser instead which is an AB donation.
26. Thick mulch for at least 3 beds.	7	10	
27. Windbreaks established and maintained.	6	8	Need more on the site
28. Water at sensible time of day.	8	10	
29. Tools well maintained & functional.	10	10	
30. Garden appearance, clean and cared for.	6	8	
31. Basic medicinal herbs planted.	4	5	Need more training but are herbs.
32. A variety of vegetables planted, including healthier ones.	4	9	
33. Intercropping and companion	7	0	

planting.			
34. At least 2 crop combinations.	9	0	
35. Production for at least 6 months of the year.	9	10	
36. The group working collectively daily.	8	10	
37. Is a plan of the garden	5	10	
38. Group formation, they meet regularly.	9	10	
39. Regular meetings with a reliable contact in the group.	7	3	
40. A person who reports properly.	3	0	
41. Bank accounts with stable project savings linked to marketing.	10	10	
42. Record of money inputs/ outputs and Harvest and consumption.	5	0	Joyce (AB) is doing it, they need to take over themselves.
43. Abalimi membership.	5	10	
44. Abalimi basic training course.	6	10	
45. Sell surplus produce.	2	10	

8. THE HARVESTING WHEEL:

FIGURE 33: HARVESTING WHEEL:



9. SWOT ANALYSIS:

SWOT analysis with Abalimi staff (mainly field workers) on Monday 26th May 2008.

STRENGTHS:

- ❖ More money for the UAPs.
- ❖ Can buy or at least contribute towards the cost of compost.
- ❖ Not charity but being helped to help themselves. Richer Cape Town families are supporting the townships.
- ❖ Linking communities, customers and growers.
- ❖ Security for gardeners.
- ❖ Abalimi has worked a long time in the field and have a lot of experience. There are many other schemes but they often turn to Abalimi for help.
- ❖ UAPs involved receive a lot of Abalimi field worker attention and time.
- ❖ There is strong training required and also follow up. Things are not just dropped off but there is also practical in the gardens.
- ❖ It's a grass roots initiative.
- ❖ If one member is sick the others help.
- ❖ Increasing Abalimi profile. Abalimi is now more visible.

WEAKNESSES:

- ❖ Abalimi staff members are still learning. Animators should assist with contracts, all field staff should know how.
- ❖ Field workers are on yearly contracts (not really a HoH weakness).
- ❖ Compost problems. Unreliable supporting companies. The problem is that planting can't start if there is no compost. They need a regular reliable supply. Gardeners should make their own.
- ❖ Field workers can't drive and therefore can't help with deliveries.
- ❖ May have to begin contracting individuals to avoid money conflicts within the groups.

OPPORTUNITIES:

- ❖ Is a new large market. Local people don't know vegetables very well and have little money. There is no local market at the moment for a greater variety of vegetables.
- ❖ Improve local knowledge.
- ❖ Every type of UAP could be involved.
- ❖ Working with the community.
- ❖ Money goes into joint saving account and therefore is helping members to save. However there is potential for conflict so perhaps putting a portion into joint account and rest to individuals may work better.
- ❖ New skills being learnt.
- ❖ Training on site and ongoing.
- ❖ Surplus goes to the ethical co-op on Wednesday.

THREATS:

- ❖ More than 50% goes to HoH.
- ❖ A lot of trainer's time is taken up. This was particularly true at the start in summer as UAPs had to learn new techniques of watering and planting.
- ❖ Monday and Tuesday are HoH days.
- ❖ Threat to other gardens as so much time is being taken up with HoH.

10. OBSERVATIONS OF OTHER HOH GARDENS:

TSIKARONG, Khayelitsha:

This site is located in the grounds of Bulumko School, Spine Road, Khayelitsha. The site area is approximately 600sqm. The total area of plots contracted for HoH was 88.4 sqm which equates to 21.5% of the garden plots. The total area for non contracted plots was 321.52 sqm, which is 78.43%.

There is only one member of the UPA but she was not present when I visited the site with Bridget in June. This was probably because it was a cold wet day and the site has no shelter. The UAP member here also sells sweets and snacks to the children at the school which demonstrates a multiple livelihood strategy common amongst the poor. Florence, an Abalimi field worker helps a lot at this UPA because there is only one member. In common with many other gardens at this particular time there was very little to harvest.

AGORA, Khayelitsha:

This UAP is also located within the grounds of Bulumko School and in common with the above UAP there is only one female member. The total area cultivated at the time of my visit in June was 302sqm. The total area of plots contracted to HoH is 133 sqm (44% of the garden) and the total non contracted plot area was 169sqm (55.9% of the garden). One side of garden was for HoH and the other is for the gardeners own use, however HoH is also buying from her non-contracted plots. There was some spinach ready in her own plot when I visited and this was bought by HoH.

There is a third project also within the grounds of the school which is not connected to Abalimi. It appeared to have some produce which could be bought for HoH to make up any short fall. It would first be necessary to check if the project used non organic fertilizers or other chemicals, as this would not be acceptable for use by HoH.

BAMBANANE, Khayelitsha:

This UAP is located off Walter Sisulu Road in Sivuyeseni primary school, Khayelitsha. The site is approximately 880sqm. There are only two people who are part of this UAP, an older man and his wife. Florence helps out at this site a lot because they have young children and the mother can not always be on site. I visited the site in June with Bridget, Florence and Joyce of Abalimi. All of the plots were contracted to HoH except a small strip on the boundary of the site which contained vegetables for the gardeners own consumption. Joyce said that before HoH the produce was sold to the community but when it rained there was no local market and when it was dry only about 50 rand a day

was made. It is more worthwhile for them to sell to HoH and to utilize the whole garden for a guaranteed market and therefore regular income.

IMIZAMO YETHU, Khayelitsha:

This UAP comprises of two women looking after a large garden therefore Abalimi fieldworkers spend a lot of time here to help out. Half of the garden is not utilized. There were other members but they found jobs and left. One lady was ill at the time of visit and not in the garden. The Department of Agriculture first put in irrigation here but then finished involvement with the project. The pump was not working because electricity at the school point is broken. Abalimi will help to sort out the problem.

The total area cultivated was 417.5sqm. The total area of plots contracted to HoH was 241.5sqm (57.8%) . The total area of non contracted plots was 176sqm (42.1%).

MASIKHANYE , Khayelitsha:

This is a co-operative inspired project from the Department of Agriculture. It is not an Abalimi supported project and there are no contracted plots here however the garden regularly supplies HoH, particularly to make up any short falls in supply. On one visit it was noted that snail bait was being used at the side of some plots. As HoH is an organic box scheme it cannot take produce if chemicals have been used and this was emphasized to the gardeners. The Department of Agriculture has supplied (given, not sold) a lot of different seeds to this project.

ESAM ESAKO, Khayelitsha:

This UAP consists of six men and is supported by Department of Agriculture but still considered as an Abalimi project. There are no contracted plots here but they are used regularly to make up any shortfall in supply. Joyce (Abalimi) will include them on the surplus marketing list which goes on the Ethical Co-op list on their web site.